THE CHEMIST AND DRUGGIST.

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A VERY GENERAL COMPLAINT.

As a class journal it is necessarily our special mission to exercise unceasing vigilance in all matters affecting the interests of the trade. We welcome any communication from our constituents indicating an abuse to be exposed, or a wrong to be redressed. If we cannot always rectify them, we can at least warn our readers of their existence, and by persistent co-operation the evil may be mitigated. We are nothing if not practical, and although our suggestions may not invariably be adapted to circumstances, we open up a controversy which may ultimately lead to the desired result. Our attention has been recently directed by a correspondent signing himself "M. P. S.," to a "complaint," which has assumed the form of an irritating epidemic, and promises, if unchecked, to become chronic. We intend to detail the symptoms, and point out a remedy, leaving it to our friends more especially interested in the issue, to decide how far it may be consistently applied. The substance of the letter in question is to the following effect: That carriers undertake to convey merchandize of every description at a certain tonnage rate, irrespective of the number of packages composing such consignment, provided these packages are what is technically called "booked together." That notwithstanding this arrangement is strictly complied with, the boxes or hampers are generally separated in transit, and delivered one at a time with excess of carriage charged thereon. Thus the unfortunate consignee finds himself mulcted in the sum of 7*s*. 6*d*. for what perhaps should only cost 3*s*. At first we were disposed to consider it an isolated instance of error, arising from the carelessness of officials, but from the innumerable complaints of a similar character which have reached us from all parts of the country, we have been compelled to form a widely different opinion. We can, however, scarcely endorse the harsh terms adopted by our correspondent, who evidently regards it as an artistically devised scheme of swindling, but the frequency of the occurrence proves a curiously convenient absence of adequate supervision on the part of the authorities. Of course, we shall be told there is an appeal from such mistakes, if duly represented in the proper quarter, and that any overcharge will be refunded. Deluded is the mortal who hopes to achieve this task without endless trouble and annoyance. All the hackneyed excuses of *routine* are called into operation—the transaction is referred from department to department, it becomes suddenly indispensable that it must be "reported" upon by nearly everybody in the establishment, and it generally terminates by the hapless claimant, wearied out with repeated applications, abandoning the prosecution of his rights in disgust. It is

needless to add that, in the event of goods being absolutely lost or abstracted by porters, these difficulties are not in any way diminished. We have been inundated with letters in corroboration of this statement, and we will select one or two cases in justification of our remarks. A country pharmacist informs us that on three several occasions he has been the victim of these clerical blunders, and on each occasion it has been weeks before the receipt of any definite answer upon the subject, and at last it was only through the influence of his London house being brought to bear upon the carriers that tardy justice was done. A large wholesale firm in the City write us, that some short time since their traveller advised them of an exorbitant charge upon a case of samples forwarded to him on his journey, and on the same day the railway company apply to their cashier in town for a *further* sum upon the plea of a miscalculation of their local collector. A counter claim is of course put in, and at the expiration of two months, and after incessant and pertinacious enquiries, an amount is reluctantly offered as a composition. Why are such needless and vexatious obstacles created? It would almost seem for the express purpose of delaying the investigation of facts. Surely a week would suffice to collect the requisite information for an equitable adjustment of a dispute. We are willing to accept as an explanation that these discrepancies are the result of negligence of servants, but it is manifestly the duty of the manager to prevent their constant recurrence. What is the prevailing impression, if a private firm conducts its business upon such lax principles? Why, an undisguised mistrust of the motives prompting such a shifting policy. Sydney Smith wittily observed, that a public company did not possess "a soul to be saved, or a nose to be pulled," and there is much truth in the remark. Certain it is, that events of late years prove that a board of directors will passively recognize acts which, as individuals, they would indignantly repudiate. Our large carriers are no exception to this rule. However, the remedy for this troublesome complaint is in a measure in the hands of the trade themselves. Let every pharmacist upon principle resist the attempted imposition, and *persist* in any claim for overcharge until the sum is paid, although it may involve some loss of time. If any suspicion exists when a single package is tendered, let him decline to pay the carriage until the invoice arrives, or the vendor has been communicated with. If this plan were universally adopted, carriers would insist upon more care being exhibited by their employés. At present this wholesale abandonment of claims (the sum in each case being, perhaps, only two or three shillings) encourages indolence; but if, on the other hand, they were pursued to the uttermost, the increased cost of clerkly labour necessary to examine them would induce directors to introduce a wholesome reform in their system, as by so doing they would consult their pecuniary interests.

THE RIGHT TO PRESCRIBE—EARLY CLOSING.

The right to prescribe is, and in the present state of the law—whose glorious uncertainty is so well known—must continue to be, a subject of the deepest interest to our readers. Where judges differ, as they appear to on this subject, it will readily be imagined how difficult a task it must be to form and give an opinion. We are not prepared to say any thing on the law at present, but it is our intention to go very fully into the matter, and meantime any information will be acceptable.

We may state that, as it is our intention to take the best legal opinions on the law of the subject, particulars of any cases which have been tried will be of great assistance. The trial alluded to by our correspondent "A. B." will be found reported in another portion of our circular. "L. O.'s" letter on Early Closing, though not directly accusing us of neglecting the question, insinuates as much.

Now, if our correspondent will look over the back numbers of the *Chemist and Druggist*, he will find articles and suggestions continually emanating from us during the last year.

The only suggestion that seemed to meet the wishes of our readers was one advocating the formation of a society, that should not only take action on the earlier closing question, but also use its organization for such other purposes as might arise from time to time. The United Society of Chemists and Druggists resulted from our efforts, and we think that the remarks of "J. O." should be addressed to its officers. Our own opinion, however, is that the limited success of the United and Pharmaceutical Societies, and their consequent want of power to carry out any really useful legislation, is caused by the apathy of the trade. "God helps those who help themselves," and with the exception of a very small minority, the chemists and druggists of this kingdom prefer blindly trusting in Providence to putting their own shoulders to the wheel. Want of organization, want of public spirit, want of mutual confidence, these are the causes which make the task of how "not to do it" so easy, and effectually prevent those who are willing and able to assist their brethren from making any movement.

ON THE ANALYSIS OF SOILS.

BY DR. HENRY M. NOAD, F.R.S.

PART II.—CHEMICAL ANALYSIS.

Determination of the total quantity of the Organic Substances, Volatile Salts, and Chemically Combined Water.—Having mixed well together the various samples taken from different parts of the field, allow the mixture to remain for a whole day in the water oven, then weigh off 1,000 grains, and ignite gently in a platinum or porcelain crucible, with constant stirring, until all blackness has disappeared from the mass; allow it to cool, and then drench it with water saturated with carbonic acid; dry, and again drench with carbonic acid water; dry, ignite, and weigh. The object of drenching with carbonic acid water is to restore any carbonic acid which may have been expelled by the ignition from lime: this is especially necessary with chalky soils. Instead of carbonic acid water, a concentrated solution of carbonate of ammonia may be used for this purpose. Pass the ignited soil through sieve (No. 2), and submit to analysis the finer particles, consisting of sand and clay. Weigh off 200 grains, and digest for several hours on the water bath, with excess of a mixture of equal parts of strong hydrochloric acid and water; then add water, and filter it into a graduated jar or flask. Wash the residue on the filter with hot distilled water till it passes through tasteless, then break a hole through the bottom of the filter with a stirring rod, and wash its contents into a small beaker; put it aside for the present, covering it with a glass plate, and marking it (A), calling the hydrochloric solution (B).

Analysis of the Hydrochloric Solution of the Soil (B).—Dilute the solution and washings with distilled water till 100 measures are obtained; well mix, by agitation, and divide into *four* equal parts, I. II. III. IV.

I. *Determination of Sulphuric Acid.*—Heat to ebullition, and add chloride of barium in excess; put aside in a warm place for twenty-four hours, pour off the clear liquid, transfer the precipitate to a filter, wash, dry, ignite, and weigh: 100 parts = 34·31 sulphuric acid, multiply by 2, the product gives the amount of sulphuric acid in 100 grains of the finely divided particles.

II. *Determination of Phosphoric Acid.*—Boil, with a little nitric acid, so as thoroughly to peroxidize the iron, then precipitate with ammonia; filter, and having washed the precipitate on the filter, re-dissolve it in dilute nitric acid. To determine the phosphoric acid in the nitric solution, Fresenius recommends an *indirect* method, after previous precipitation, as phospho-molybdate of ammonia. Proceed as follows:—Dissolve 20 grains of molybdic acid in 180 grains of solution of ammonia, mix this with 400 grains of nitric acid, and add the

mixture to the nitric solution; digest for twenty-four hours on the water bath, and wash the precipitate (if any) with the same solution of molybdic acid with which it was produced; let the filtrate stand for some time on the water bath to see whether a further precipitate will form, and if so, add this precipitate to the first. Dissolve the precipitate on the filter in ammonia; wash and agitate the solution well with solution of sulphate of magnesia; the precipitate which is thereby produced is ammonio-phosphate of magnesia. After standing for twenty-four hours it is collected on a filter, and washed with water containing $\frac{1}{4}$th of ammonia; it is then dried, ignited, and weighed: 100 parts correspond to 63·96 parts of phosphoric acid. This method, though somewhat troublesome, is accurate. If, however, the operator fails in obtaining any proof of phosphoric acid, he is recommended to repeat the experiment, employing the entire hydrochloric solution of 100 grains of the soil; it is advisable, also, to prepare a considerable quantity of the molybdic solution, as it is employed for washing as well as for precipitation. An important advantage in this method of determining phosphoric acid is, that the presence of alumina and sesquioxide of iron does not interfere with it; it is, however, necessary to add the molybdic solution in very considerable excess; and it is inapplicable where the phosphoric acid is in considerable quantity, which is not, however, likely to be the ease in the analysis of soils. Chaucel's method, by acid nitrate of bismuth, which we have described (p. 162 of the present volume), is stated also to give accurate results.

III. *Determination of the Iron.*—All fertile soils contain this metal when in an efficient state of cultivation, as *sesquioxide;* not unfrequently, however, especially where the draining has been neglected, part, and occasionally indeed the whole of the iron exists as *protoxide.* Now, as the latter oxide is positively injurious, while the former is probably absolutely necessary, it is important to ascertain whether any, and if any, how much of the iron exists in the soil in the form of the hurtful oxide. For this purpose a portion of the fine *non-ignited* particles is extracted with hydrochloric acid, and filtered; the filtrate is nearly neutralized with ammonia, diluted with water, and, if necessary, filtered again; a drop or two of solution of yellow prussiate of potash is added to the clear filtrate. If the precipitate which falls is *dark blue,* the whole of the iron exists as sesquioxide; if the precipitate be *pale blue,* then part at least of the iron is in the state of *protoxide.* Suppose, *first,* that the whole of the iron exists as sesquioxide, one-fourth part of the hydrochloric solution of 200 grains of the soil is transferred to a flask, a little more acid added, and then some small fragments of pure metallic zinc, the flask being placed in a slanting position to avoid any loss; evolution of hydrogen gas takes place, which gradually reduces the iron to the state of protoxide, and the solution at last becomes colourless. The amount of iron is now determined by the volumetric method of Marguerite, which we have fully described in page 78 of this journal. It is calculated as sesquioxide (56 iron = 80 sesquioxide), and the amount obtained, multiplied by 2, gives the per centage quantity of sesquioxide of iron in the finely divided matter of the soil. Suppose, however, that the qualitative experiment has shown that some of the iron is in the form of protoxide, in that case a second determination of iron is made in the hydrochlorie solution of a weighed quantity of the *non-ignited* fine matter of the soil, *not* previously reducing with zinc, the quantity found is calculated upon 100 grains of the soil, and the result deducted from the total quantity of iron found; the difference gives the proportion of the metal as sesquioxide.

IV. In this portion of the hydrochlorie solution *Silicic Acid, Alumina, Lime, Protoxide of Manganese and Magnesia* are determined. It is evaporated to perfect dryness, a little nitric acid being added during the evaporation to peroxidize the iron; the dry and cold residue is sprinkled with hydrochloric acid, and after standing for half an hour, boiling distilled water is poured over it and it is thrown on the filter; the silieic acid having, by this treatment, been rendered insoluble, remains on the filter, on which it is washed, then dried, ignited, and weighed. The filtrate and washings contain the *oxide of manganese, alumina, lime, and magnesia,* which are separated from each other by the method described, page 78, in our artiele on the analysis of *iron ores.* If no oxide of manganese be present, the process may be much simplified. The solution, after the separation of the silieic acid, is at once precipitated by slight excess of ammonia, and filtered as quickly as possible. The preeipitate on the filter eonsists of *alumina* and *sesquioxide of iron:* it is washed, dried, ignited, and weighed. From the weight obtained, that of the sesquioxide of iron already determined is dedueted, the

remainder is the *alumina*; the *lime* and *magnesia* are contained in the filtrate, which is treated as usual.

Determination of Alkalies.—From 50 to 100 grains of the soil are taken for this purpose, and the method followed is that of Dr. Smith, fully described in page 7 of this journal; the results are very exact, and the fused mass should be digested with *pure water*, instead of with hydrochloric acid, as first recommended by Dr. Smith.

Determination of Carbonic Acid.—This is effected on a separate portion of the gently ignited finer part of the soil by the process fully described in page 391 of the first volume of this journal. Fig. 3 shows the modified form of the apparatus of Fresenius and Will, which is there recommended. Not less than 100 grains of the soil should be employed.

Fig. 3.

Determination of the Organic Acids (Ulmic, Humic, Getc).—Digest 1,000 grains of the air-dried soil at a temperature under boiling, with a strong solution of carbonate of soda for several hours; filter, and supersaturate the filtrate with hydrochloric acid. A greater or less quantity of a brown flocculent matter separates; this is collected on a weighed filter, and washed with distilled water till the wash-water begins to be coloured; it is then dried at 212°, and weighed, after which it is burnt, and the weight of the ash (after subtracting the filter ash) deducted from that of the dry mass, the difference gives the *acids of humus*. If a preliminary experiment has shown a considerable proportion of these acids, a smaller quantity of soil may be operated upon. The same also with the

Determination of Humus Coal.—The soil is boiled for several hours, preferably in a silver dish, with moderately strong solution of caustic potash, replacing the evaporated water from time to time with distilled water; it is then diluted considerably with water, and filtered. Excess of hydrochloric acid is added to the filtrate, and the precipitated matter collected on a tared filter, washed, dried, and weighed; now, by the action of the caustic alkali, the *humus* coal is converted into *humic* acid, the difference between the weights obtained respectively in this experiment and in the last, expresses therefore the amount of *humus coal*.

Determination of the Total Amount of Carbon in a Soil.—This is effected by burning a known weight of the soil (which has been previously treated with dilute hydrochloric acid, and thoroughly washed) with oxide of copper in an ordinary combustion tube, and receiving the carbonic acid produced in caustic potash, contained in an apparatus in which it can be weighed. The increase in the weight of the caustic potash is due to carbonic acid, derived from the carbon of the organic matter in the soil (22 CO_2 = 6 C). According to Schülze 58 parts of carbon correspond on an average to 100 parts of organic matter in the soil. For almost every purpose, the estimation of the total amount of carbon in the manner here indicated is sufficient, and the process is attended with very little trouble.* Very little reliance can be placed on the loss of weight which the dried earth suffers by ignition, on account of the tenacity with which some claycy soils retain water.

Determination of the Nitrogen in a Soil.—Combined nitrogen may exist in a soil in three different forms, viz., as ammonia, as nitric acid, and as organic matter. If the analysis is intended to be of a rigorous character, it will, of course, be necessary to examine the soil specially both for ammonia and for nitric acid; in almost every case, however, a determination of the per centage amount of nitrogen conveys all the information that is desired on this head. This is effected by burning a known weight of the air-dried soil in a hard glass tube with an excess of soda lime,† and conducting the products of the combustion into dilute hydrochloric acid. After the combustion is over the acid solution is evaporated on the water bath, the residue dissolved in water, and the solution mixed with bichloride of platinum and alcohol; the amount of nitrogen is deduced from the weight of the precipitate, 100 grains of which

* Minute details respecting carbon and hydrogen determinations generally, will be given in a future paper.

† Soda lime is prepared by dissolving a known weight of commercial crystallized carbonate of soda in water, adding twice its weight of anhydrous caustic lime, evaporating to dryness in an iron vessel, and igniting the residue in a Hessian crucible. It must be kept in a well-stoppered bottle.

correspond with 6·27 grains of nitrogen. The whole process will be found fully described and illustrated, Vol. I. p. 392, of this Journal.

Analysis of the Residue of the 100 *grains of Soil insoluble in Hydrochloric Acid* (A.)—Evaporate off the water, or draw it off with a pipette, transfer to an evaporating dish, and dry the residue thoroughly on the sand bath, after which remove it to a platinum or porcelain crucible, and ignite it gently. Digest with excess of sulphuric acid, mixed with a little water, until nearly the whole of the acid is driven off (this must be done under a hood); let the mixture cool, then add water. Transfer to a filter, and wash well the residue (which will consist generally of pure siliceous sand); dry, ignite, and weigh. The solution containing alumina, with, perhaps, a little oxide of iron, is precipitated by ammonia; the precipitate collected on a filter, washed, dried, ignited, and weighed. The weight is entered in the tabular statement of the results of the analysis as "Alumina, not soluble in hot hydrochloric acid."

The accuracy and care with which the whole of these processes have been conducted, is tested by adding together the weights of the several substances that have been separately obtained. If this sum does not differ more than *one* per cent. from the weight of the soil employed, the results may be considered as deserving of confidence. One of the points in which a beginner is most likely to err is in the washing of the several precipitates. As this is a tedious operation, he is very likely to wash them, at first, only imperfectly, and thus to have an *excess* of weight when his quantities are added together; whereas a small *loss* is almost unavoidable. The precipitates should always be washed with distilled water, and the washing continued till a drop of what passes through leaves no stain when dried upon a bit of glass.

In our next paper we shall give some directions for the chemical examination of some of the most important *manures*.

THE NATURAL ORDERS OF PLANTS.

ROSACEÆ—THE ROSE TRIBE—*(continued)*.

SUB-ORDER, ROSEÆ.

GENERAL PROPERTIES.—The plants belonging to this sub-order (Natural Order *Rosaceæ*, of Lindley) are chiefly natives of the temperate or cold climates of the northern hemisphere, and are destitute of unwholesome properties, their chief characteristic being the presence of astringent matter.

PRINCIPAL PLANTS AND USES.

AGRIMONIA.—The species *Eupatoria* was formerly employed, in the form of decoction, as an astringent gargle. It has also been used as a remedy in diarrhœa and leuchorrhœa, and as a vermifuge; great virtues are still attributed to it by the rustics in country places. It is stated to dye wool of a nankeen colour, and has been recommended for dressing leather.

BRAYERA.—An article on the species *Anthelmintica*, or Kosso, will be found in our first volume.*

COMARUM.—The species *Palustre* contains astringent properties. The fruit is termed "Cow-berries" in Scotland, and the roots are said to dye wool of a dirty red colour.

FRAGARIA.—The different kinds of Strawberries held in such universal repute, are the produce of the species *Elatior*, *Vesca*, &c.

GEUM.—The root of the species *Urbanum* was formerly officinal in the Ph. Dub. When put into ale it is stated to impart a pleasant flavour, and to prevent its turning sour. The species *Rivale* is probably the source of Indian Chocolate Root, much employed in the United States in diseases of the bladder. Both species are reputed to possess aromatic, tonic, and astringent properties, and have been compared, for their efficacy, to cinchona.

GILLENIA.—The roots of the species *Stipulacea* and *Trifoliata* are employed as medicinal agents in the United States. They are stated to be tonic in small doses, and, when given in

* Vol. I. p. 138.

large doses, to prove emetic. They are commonly known as Indian Physic, and American Ipecacuanha.

POTENTILLA.—The root of the species *Reptans* is reported to have been employed as a febrifuge. An article on the species *Tormentilla* will be found in our "Botanical Calendar" for January and February.* The roots of the species *Anserina*, and others, closely resemble it in properties, and have been employed for similar purposes.

QUILLAIA.—The bark of the species *Saponaria*, and others, contain a principle termed *Saponine*, which is said to excite violent sneezing. This bark is employed in some parts of America as a substitute for soap, and is stated to remove all spots and stains, and to impart a remarkable lustre to wool. It has been employed in this country as a detergent in cases of baldness or scurfiness of the head.

ROSA.—There is probably no flower that can rival the different species and varieties of this genus, so well known for the beauty of their flowers and their delicious odour, as to have proved a favourite in all ages. An article on the species *Canina* will be found in our "Botanical Calendar" for September,† and on the species *Centifolia* and *Gallica* in that for June.‡

RUBUS.—The leaves of the species *Arcticus* are said to be employed as a substitute for tea. Many furnish edible fruits, as the species *Cæsius*. The Dewberry. *Chamæmorus*. The Cloudberry, Dwarf Mulberry, or Mountain Bramble, which is much prized by the Laplanders and Scottish Highlanders, and reputed to be an excellent antiscorbutic. The species *Fruticosus*, the well-known Blackberry, and the species *Idæus*, the Raspberry. The root of the species *Villosus* is employed in North America as a popular astringent medicine, and a decoction of it is stated to have proved useful in cholera infantum. It is also reported to possess an emetic quality.

SIEVARSIA.—The species *Montana* possesses properties closely resembling those of Comarum and Geum.

SPIRÆA.—According to Seemann, a strong liquor is prepared from the root of the species *Kamtschatka*. The roots of the species *Filipendula* and *Ulmaria* possess tonic properties; the latter is termed Meadow Sweet, from the peculiar fragrance of its flowers.

SUB-ORDER, SANGUISORBEÆ.

GENERAL PROPERTIES.—The plants of this sub-order (Natural Order *Sanguisorbaceæ*, of Lindley) closely resemble those of Rosæ in the presence of astringent matter. They are natives of Europe, North and South America beyond the tropics, and the Cape of Good Hope; in the latter country they represent the Roseworts of Europe.

PRINCIPAL PLANTS AND USES.

ACÆNA.—The species *Sanguisorba*, which is common in Tasmania, causes great annoyance to pedestrians, by its fruit hooking to their stockings and other parts of their dress. Its leaves are stated to prove an excellent substitute for tea.

ALCHEMILLA.—The species *Vulgaris*, Field Ladies' Mantle, or Parsley Piert, is astringent and tonic, and is asserted by some to have the effect, when applied in the form of decoction, of restoring the faded beauty of ladies to its earliest freshness. It was formerly considered useful in cases of gravel or stone, and hence termed "Breakstone."

MAGARICARPUS.—The species *Setosus*, a little needle-leaved bush, with pearly succulent fruit, is said to be employed by the Peruvians, in the form of decoction, as a remedy against hæmorrhoids.

SANGUISORBA.—The roots of the species *Canadensis* is said to be bitter, astringent, nauseous, and emetic, and its fruit stupefying. The species *Officinalis*, or Common Burnet, is a useful fodder.

SUB-ORDER, POMEÆ.

GENERAL PROPERTIES.—The plants of this sub-order (Natural Order *Pomaceæ*, of Lindley) furnish us with many edible fruits, and the flowers are remarkable for their beauty and their tendency to produce monstrosities. They consist of trees and shrubs, and are

* Vol. I. p. 99. † Vol. I, p. 217. ‡ Vol. I. p. 306.

plentiful in Europe, Northern Asia, the mountains of India, and North America. Hydrocyanic acid is produced from the seeds of some.

PRINCIPAL PLANTS AND USES.

AMENLANCHIER.—The fruit of the species *Canadensis* is known under the name of Shadberry or Service-berry in Rupert's Land and other places, and is employed for mixing with Pemmican.

COTONEASTER.—The species *Microphylla* and *Uva Ursi* are said to produce hydrocyanic acid in abundance.

CRATÆGUS.—The species *Oxycantha* is the Whitethorn or Hawthorn Tree, commonly known as "May" in many country places, from its blossoming during that month. The delightful fragrance of its blossom is well known. The berries, which are termed Haws, adorn our hedge-rows in the autumn or early winter, and yield a grateful supply of food to many species of birds.

CYDONIA.—An article on the species *Vulgaris* appeared in our Botanical Calendar for October.*

ERIOBOTRYA.—The species *Japonica* produces a fruit called the Loquat.

MESPILUS.—The species *Germanica* yields the fruit termed the Medlar, of which there are several varieties.

PHOTINEA.—The bark of the species *Dubia* is said to be used in Nipal for dyeing scarlet.

PYRUS.—The species *Aria* is the Beam Tree, the timber of which is valuable for axletrees and other purposes. The species *Aucuparia* is the Mountain Ash, or Rowan Tree, the flowers, root, and bark of which are said to yield as much hydrocyanic acid as the leaves of the Cherry Laurel. The fruit, which contains malic acid, is a favourite food of many birds, especially those of the thrush tribe, and contribute greatly to the adornment of our shrubberies, &c. in the autumn. The fruit of different varieties of the species *Communis* furnish us with that delicious fruit the Pear. The timber is sometimes used by wood engravers instead of Box. The species *Domestica* is the Service Tree. The species *Malus*, and its varieties, produce the different kinds of Apple; and the species *Torminalis* is the Wild Service Tree.

CHEMICAL NOTES.

The Mechanical Equivalent of Heat.—This has been determined by Mr. Joule, of Manchester. He found that *one unit* of heat, or that quantity of heat which is necessary for raising the temperature of a pound of water one degree centigrade, is equivalent to the mechanical work by which the same mass of water is raised to 423½ metres or 1389 English feet. When heat produces mechanical power, that is, mechanical work, a certain amount of heat is always lost. On the other hand, heat can be also produced by mechanical power, namely, by friction and the concussion of unelastic bodies. You can bring a piece of iron into a high temperature, so that it becomes glowing and luminous by only beating it continuously with a hammer; here mechanical power is converted into heat. If we produce so much heat as is necessary for raising the temperature of one pound of water by one degree, then we must apply an amount of mechanical work equal to raising one pound of water 1389 feet, and lose it, for gaining again that heat. By these considerations it appears to be proved, that heat cannot be a ponderable matter, but a motive power, because it is converted into motion or into mechanical power, and can be produced either by motion or mechanical power. Now, in the steam-engine we find the *heat* is the origin of the motive power, but the heat is produced by burning fuel, and therefore the origin of the motive power is to be found in the fuel, that is in the *chemical forces* of the fuel, and in the *oxygen* with which the fuel combines.

The Sun's Heat.—According to the hypothesis of Laplace, the universe was formed by a chaos of nebulous matter, spread out through infinite space, this nebulous matter becoming afterwards conglomerated and aggregated to solid masses. Great quantities of this nebulous matter, possibly from a great distance, fell together, and thus their attraction, or the *energy* of their attraction, was destroyed, and hence heat must have been produced—heat so great that it surpasses all our ideas, and all the limits of our imagination. If we calculate this quantity

* Vol. I. p. 339.

of heat, and suppose that the sun contained the whole of it, and if we suppose that the sun had the same specific heat as water, it would be heated to *twenty-eight millions* of degrees, that is, to a temperature surpassing all temperatures we know on earth. However, this temperature could not exist at any time in the sun, because the heat which was produced by the aggregation of the masses, must also be spent partially by radiation into space. Nevertheless the sun is at present hotter than any heated body here on the earth, as is shown by the latest experiments of Kirchhoff and Bunsen on the spectrum of the sun, by which it is proved that in his atmosphere *iron* and other metals are contained as vapours, which cannot be changed into vapours by any amount of heat on the earth.

Conversion of Heat into Mechanical Force in the Body.—Dr. Edward Smith has instituted researches on the amount of air taken into, and of carbonic acid given out by, the lungs of a man while doing work on the treadmill, and he finds that a most astonishing increase of respiration takes place during such work. His experiments showed that, by going in the treadmill at such a rate, that if he went up a hill at the same rate he would have risen during one hour 1712 feet; he exhaled five times as much carbonic acid as in the quiet state, and ten times as much as in sleeping. The treadmill is the best method of getting the greatest amount of work from a human body. If we go up the declivity of a hill we raise the weight of our own body; in the treadmill the same work is done, only the mill goes always down, and the man on the mill remains in his place. The human body, if it be in a reposing state, but not sleeping, consumes so much oxygen, and burns so much carbon and hydrogen, that during one hour as much heat is produced as would raise the temperature of a weight of water equal to the weight of the body 2½ degrees Fahrenheit, the mechanical equivalent of which is rising 1712 feet; so that the amount of mechanical work done in a treadmill is equivalent to the whole amount of that which is produced in a quiescent state, but the whole amount of decomposition in the living body is five times as great. Of these five quantities one quantity is spent for mechanical work, and four-fifths remain in the form of *heat*. The production of heat in the body while doing great mechanical work is notorious, and hence we see how much the decompositions in the body are increased thereby. The human body (says Helmholtz) is a better mechanical machine than the steam-engine, *only its fuel is more expensive*, for if we take any thermo-dynamic engine, we find that the greatest amount of mechanical work which can be gained is an eighth part of the equivalent of the chemical force generated by the combustion of the fuel, the remaining seven-eighths being lost in the form of heat. In the human body, on the other hand, one-fifth of the chemical force is spent in doing mechanical work, the other four-fifths remaining as heat. Henry M. Noad.

GUACINÆ.

History.—Guacinæ is a preparation of recent introduction from the resin of Guaicum, which has been used in medicine for hundreds of years. The tree of the *Guaicum Officinalis* is very beautiful, bearing pale blue petalous flowers. It grows abundantly in Jamaica, St. Domingo, and the Island of St. Thomas. With the preparation of Guacinæ we are unacquainted, as the firm who introduced it have not made the formulæ public. We understand that the pure alkaloid is separated from the resin, and afterwards made into a solution convenient for administration.

Properties.—Guacinæ is a liquid of a dark colour, somewhat heavier than water. In its action it is stimulant, diaphoretic, and diuretic. It possesses an aromatic taste, and when swallowed, it induces warmth throughout the whole frame, with a slight increase of the pulse. These effects are soon followed by diaphoresis, or sweating, if the body be kept warm, or by a flow of urine if it be kept cool. In large doses Guacinæ laxarates the bowels and causes sleep. These therapeutic properties form the basis of its most important use—viz., its application to the treatment of Gout, Rheumatism, Neuralgia, &c. In chronic cutaneous diseases it is of obvious advantage by tending to restore capillary action. In syphilitic diseases it is also of great value; and several medical men affirm, that for this purpose it is little inferior to mercury.

Dose.—The dose of this preparation is from 5j to 3iij in water or milk. Milk is a more convenient vehicle than water, inasmuch as an extemporaneous emulsion is simultaneously produced.

PHOTOGRAPHIC CHEMICALS.—VII.

ETHER.—Symbol, $C_4 H_5 O$; atomic weight, 37.—Ether is obtained by distilling certain proportions of alcohol and sulphuric acid. It is a limpid, colourless fluid, of s. g. ·720, and boils at 98°; the vapour is extremely dense. Care should be taken in using ether with a candle in the room, to keep the ether as much beneath it as possible. Many lamentable accidents have arisen through operators imagining the vapour of ether to be lighter than air. Ether of a higher s. g. than ·720 contains alcohol and water. Ether made from methylated spirit should never be used in photography, as it contains great impurities, besides a portion of oxide of methyle, an easily oxidisable compound. Ether has generally been supposed to be a neutral body, but, from experiments made by Mr. Hardwich, there is good reason to suppose that it is alkaline.

GALLIC ACID. $C_7 H_3 O_5 + H O$; atomic weight, 94·.—This organic acid is prepared from the gall-nut, an excrescence formed by the gall insect upon the branches of the *Quercus infectoria*. Gall-nuts contain amongst other constituents a notable quantity of tannic acid, and it is by the oxidation of this substance that gallic acid is produced. The best black Aleppo galls are powdered, and made into a stiff paste with water. The mixture is exposed to the air in a warm place for six or seven weeks, care being taken to fill up the water as it evaporates. It is then boiled in water, and the solution filtered while hot. On cooling, crystals of gallic acid are formed in the filtrate, which are re-dissolved and boiled with animal charcoal to decolorise them. The liquor is once more evaporated, and small feathery crystals of gallic acid of great purity are deposited. As found in commerce, gallic acid is generally slightly yellow from containing a small quantity of organic impurity; but this does not appear to affect its working. Its affinity for oxygen renders it particularly useful as a reducing agent in photography. It is used in the calotype, waxed paper, and collodio-albumen processes, and in the manufacture of pyrogallic acid (q. v.) It is soluble in 100 parts of cold and 3 parts of boiling water. Its aqueous solution soon becomes mouldy and useless by keeping; but this may be obviated to a certain extent, by the adding to it a few lumps of camphor or one or two drops of oil of cloves. The saturated solution is generally employed in photography, and contains from three to four grains per ounce. The best way of making it is to shake up in a bottle an excess of gallic acid and cold water, continuing the agitation at intervals for an hour or two. When no more acid appears to be dissolved, throw in a few pieces of camphor, and put the solution in a cool dark place. When required for use the proper quantity should be carefully filtered from the stock bottle, and the remainder filled up with fresh water and shaken as before. The solution should be thrown away the moment any turbidity is perceived, and the bottle washed out with nitric acid or cyanide of potassium before being used again. Measures which have contained gallic acid should be cleansed in the same way, as the slightest atom of decomposed organic matter is sufficient to spoil any quantity of solution in a very short time.

GELATINE.—This animal compound is somewhat analogous to albumen, and is obtained by subjecting hoofs, hides, bones, tendons, &c., to the action of boiling water. The solution is freed from fat by skimming, and, on cooling, size or impure gelatine is formed: this when dried is called glue. There are various processes for purifying gelatine; but it would be foreign to our purpose to enter into them here. Isinglass is a very pure form of gelatine, and is made in Russia from the air bladders of the sturgeon. Gelatine may be tested by its transparency and brilliancy, and by forming a clean and clear solution in hot water perfectly free from smell. The different qualities sold as Nelson's, French, Swinburne's, Coxe's, &c., are very pure. Gelatine swells in cold water, but does not dissolve until heated; on cooling it forms a transparent jelly. At ordinary temperatures one part of gelatine in 150 parts of water will remain liquid on cooling; a stronger solution will gelatinize. Gelatine has several uses in photography. It is added to the chlorising solutions in the preparation of plain salted paper, to keep them as much as possible at the surface. English photographic papers are generally sized with it; from which circumstance they give a brighter and stronger image in the plain paper process than those made in France, which are sized with starch. It has been proposed as a substitute for glass, but it does not seem to have come into general use. It is used by many for mounting prints; for which purpose it should be made fresh every day, as in hot

weather it may become decomposed. Artists employ it for sizing photographs, to prevent the colour sinking through the paper.

Gelatine has the peculiar property of forming an insoluble compound with oxide of chromium when it is exposed to light in combination with bichromate of potash (q. v.). It is this property which causes it to be used in the various processes for transferring photographic impressions to metal plates or lithographic stones. It is also used in Mr. Pouncey's carbon printing process. For these purposes the best quality only is to be used.

Gold, Perchloride of. Symbol, $Au\,Cl_3$; atomic weight, 303·1.—This salt, which, for shortness, is generally spoken of as chloride of gold, is made by dissolving the pure metal in nitro-hydrochloric acid, and evaporating at a gentle heat. It crystallizes in deep orange masses, which deliquesce on being exposed to the air. The neutral solution is deep red; but the salt as found in commeree being generally acid, the solution formed from it is saffron yellow. For photographic purposes this slight acidity is of no consequence. To make it, place a half-sovereign or other gold coin in a vessel, and pour on it half a drachm of nitric acid and two drachms and a half of hydrochloric acid. To this add three drachms of water, and digest at a *gentle heat,* continually adding nitro-hydrochloric acid until the metal is dissolved. The solution will contain chloride of gold, chloride of copper, and an excess of acids. Add to it, after a copious dilution, a filtered solution of pure protosulphate of iron in the proportion of six parts of iron to one of gold. The whole of the gold will be thrown down in a finely divided metallic state, the copper remaining in solution. Well wash the precipitate and re-dissolve in nitro-hydrochloric acid. The evaporated solution yields crystals of pure chloride of gold, which should be dissolved in water in the proportion of one grain of the salt to one drachm of water, and kept for use in a dark place. A partial reduction of gold on the sides of the bottle may take place, but this is so small as to be of no consequence. Its principal use in photography is as a toning agent in the various printing processes. It has been proposed to revive faded prints by immersing them in a solution of chloride of gold forty grains to the pint, and afterwards exposing them to the sun, and fixing in hyposulphite of soda; but the process is not always successful.

Gold, Hyposulphite of. Symbol, $Au\,O,\,S_2\,O_2$; atomic weight, 252·6.—This salt can only exist in combination with some other hyposulphite; that of soda, for instance. The double hyposulphite of gold and soda is sold in commerce as *sel d'or*; but from the ease with which it is adulterated, photographers prefer to make it for themselves. Some samples have been bought containing only 5 per cent. of gold. It is formed by adding one part of chloride of gold in solution to three parts of hyposulphite of soda, and precipitating the salt by alcohol. Care must be taken to add the gold to the soda, and not the soda to the gold.

Gold and Sodium, Chloride of. $Au\,Cl_3\,Na\,Cl + 4\,H\,O$.—This salt is a double chloride of gold and sodium with four atoms of water of crystallisation. Being non-deliquescent, it has been proposed as a substitute for chloride of gold; but like *sel d'or* its adulteration is so easy that it will not be likely to come into general use. The mode of preparing it is to add together equivalent proportions of the two chlorides, and evaporate to dryness.

Iodine. Symbol, I; atomic weight, 127·.—This element is chiefly prepared at Glasgow from the mother liquor of kelp known as iodine lye. This liquor, evaporated to dryness, and the residue distilled with sulphuric acid until the iodides are decomposed and iodine rises and condenses in the receiver in opaque micaceous masses. These are resublimed two or three times, and are then perfectly pure. The ordinary iodine of commerce is often adulterated with coal, plumbago, oxide of manganese, antimony, and charcoal; the pure resublimed iodine should alone be used, and even this should be carefully tested before use. Pure iodine has a blue black colour, and stains the skin yellow. It is volatile at ordinary temperatures, especially when moist. At 225° it rises in a magnificent purple vapour. It is sparingly soluble in water. Its solution in alcohol is used for adding to new positive collodion, to give it the qualities which it otherwise acquires by age. Its uses under the form of iodides are explained under the heads of their various bases.

Iron, Acetate of.—There are two acetates of iron—a protacetate and a peracetate. The former only is used in photography. These compounds are analogous in properties to the corresponding sulphates of iron (q. v.). The protacetate is used in combination with the protosulphate as a developing solution in the negative collodion process in very cold weather when the finer shadows of the picture are no longer brought out by the pyrogallic developer.

A solution of the protacetate, containing an excess of the sulphate, may be made by adding six grains of acetate of soda and twelve of protosulphate of iron to one ounce of water. This mixture is very unstable, and will not keep above a day or two. The protosalts of iron act as developing agents, by abstracting oxygen and leaving the silver in a pure metallic state. The acetate of iron is used for the negative process in consequence of its forming a dense purple deposit, whereas that formed by the protosulphate alone is thin and grey.

MEDICAL PARASITES.

The following characteristic epistle recently appeared in our medical contemporary the *Lancet*, and requires no comment:—

"Sir,—I, for one, have to offer you my best thanks for your leading article in *The Lancet* of July 13th, and for the able manner in which you have on all occasions maintained the dignity of our profession; for, in truth, we poor members of the body medical are eaten up by parasites, external and internal. First, we have our illegitimate brother, the druggist, who lies coiled up in our very vitals like an enormous tænia, with a very slight cephalic development. He carries on a species of guerilla warfare against the invisible foe, disease, firing off a few random shots, and when he sees the enemy advancing he retreats from the contest, and leaves the ease to the qualified practitioner. Thus he has no responsibility, and the great majority of his patients being but slightly ill, they quickly recover, and he acquires the reputation of being a very clever man. The poor people call him 'doctor.' Many are the arts by which the druggist endeavours to pass himself off as a qualified man. One places conspicuous glass tablets in his window, bearing the words 'medicine' and 'surgery,' which, of course, is to lead the public into the belief that he is a proficient in those branches of learning. Again, Scalpel, the surgeon, who has lived many years in a certain neighbourhood, wishes to retire, and transfers his house, surgery, fittings, and goodwill to Saltz, the druggist. Saltz keeps his predecessor's name and titles on the plate. Very little change is required to convert an 'open surgery' into a druggist's shop, and a door leading into an inner room is labelled 'consulting room.' How are the public to distinguish this man from the properly educated practitioner? I know instances of these two modes of procedure in this neighbourhood. But we must not be too hard upon the druggist. When men belonging to a respectable College condescend to deal in patent medicines, tooth-brushes, and soap, it is too much to expect the druggist will keep himself strictly to his own domain. I am told they manage these things better in France.

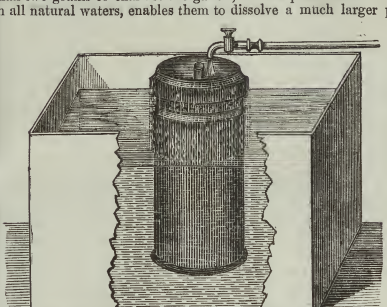
"A worse form of parasite is the advertising quack. When will the public cease to put most faith in the man who blows his own trumpet the loudest? When will they understand that our code of etiquette, which proscribes all who practise with secret remedies, is a rule which is most certainly calculated to promote the interests of science, and as certainly to be for the welfare of mankind? When will they understand this, and give us a helping hand by discountenancing such doings? The advertisements of nostrums, as we see by the daily papers and in our daily walks, emanate from all classes of people, male and female, professional and non-professional, from Widow Wale's to Dr. Buchu's saccharine pills, the latter laying claim to be a Fellow of the College of Physicians? All I can say is, it is a disgrace to our Colleges to permit their diplomas to be so used. And if we say this of such men, what are we to say of those whose filthy and lying advertisements defile our public streets and contaminate our public journals; of those who send out their touters to distribute their flimsy handbills in our most crowded thoroughfares—handbills so disgraceful and obscene, that the men who give them away double them up, as if even they were ashamed of their contents? Parasites! They are the loathsome, gangrened limb, to uncover which is pollution. The 'line of demarcation,' let us hope, is distinct enough between us and them; but when will the putrid mass be east off?

"I will trespass no more upon your attention, except to suggest that there are three things the profession now seriously requires. 1st. A really efficient law which will distinguish the qualified and the unqualified. 2ndly. That law to be stringently carried out. 3rdly. That those who grant us our diplomas should have a proper sense of their own dignity, and cancel the names of those who are a disgrace to us. Your obedient servant,

"T. J. WOODHOUSE, F.R.C.S."

DANCHELL'S WATER SOFTENING APPARATUS.

The hardness of water, which is so serious a drawback to its use in cooking, and particularly in washing, is dependent on its holding in solution a certain quantity of chalk or carbonate of lime. Some of the hardest well waters in London contain as much as eighty grains in a gallon; the water of the Thames contains about fourteen grains; rain and distilled waters are destitute of all traces of this substance. Pure water is incapable of holding in solution more than two grains of chalk to the gallon, but the presence of carbonic acid gas, which is found in all natural waters, enables them to dissolve a much larger proportion; this gas, however, is in great part expelled by boiling, when on the removal of the carbonic acid, the chalk having lost its solvent, it is precipitated in the form of a finely divided solid, rendering the water in the first instance turbid, and afterwards settling on the interior, forming the rock or fur which is found in the inside of steam boilers and tea kettles.



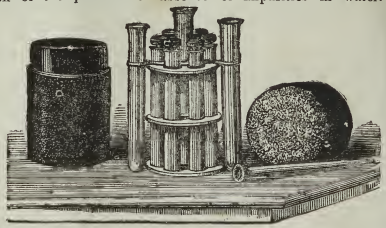
In domestic economy the great evil occurring from the employment of hard water is the serious loss of soap it causes in washing, every grain of chalk destroying about ten times its weight of soap before a lather can be raised, or the cleansing powers of the soap come into operation; it follows, therefore, that in a wash in which one hundred gallons of Thames water are employed, a loss of two pounds of soap would be incurred, and this would only be partially lessened by the previous boiling of the water.

Dr. Clarke, some few years since, devised a process for the softening of hard water, by the addition of a proportionate quantity of lime in a pure and caustic state; this, by uniting with the carbonic acid of the water, forms chalk, which being insoluble, is precipitated, in conjunction with that portion of chalk which was previously dissolved by the excess of the carbonic acid.

This invention has been very successfully applied by some of the water companies, where it is desired to soften large quantities of water; but as it is necessary to proportion the quantity of lime used to the exact degree of hardness in the water, an accurate calculation becomes necessary, which none but scientific persons are capable of making. Again, the supply of water in the cisterns is constantly varying, so that any fixed quantity of lime will be liable to be either in excess or deficiency, and for household purposes such an exact degree of attention as is necessary in graduating the due amount of lime is impossible. It is to meet this difficulty that Danchell's Water Softening Apparatus has been devised. It consists of an outer and an inner cylinder; both are open above: these receive the water supply from the cock, as shown in the engraving. The water flows over the outside of the larger cylinder, and down the inside of the inner one; the former portion escapes at once into the cistern, the latter, flowing down the central cylinder or pipe, passes to the bottom, where it comes in contact with the deposit of fresh slaked lime, a certain portion of this is dissolved, and then the water escapes by lateral perforations into the cistern. It is evident that by proportioning the relative size of these two cylinders, any desired amount of the water admitted by the pipe can be converted into lime water, and that the per-centage will not vary whatever quantity of water may be introduced into the apparatus; hence it may be described as being perfectly self-acting, and when once adjusted it will only be necessary to charge the apparatus at distinct intervals with a few pounds of freshly burnt lime to render it constantly effective.

DANCHELL'S CHEMICAL WATER TESTING APPARATUS.

The accompanying engraving represents one of the most convenient and useful arrangements for practical analysis with which we are acquainted. It is, in fact, a complete portable laboratory for the determination of the presence or absence of impurities in water. It consists of a frame-work or stand holding seven small bottles for reagents, two test tubes, and a dropping tube. When not in use the latter is placed in one of the test tubes which slides within the other, and these are in their turn placed in the centre of the frame; the two loops holding the tubes in the position shown in the engraving are folded towards the centre, so that the entire apparatus is capable of being enclosed in a case not more than three inches in diameter by five in height.



The seven bottles contain the required test liquids for the presence of ammonia, decomposing organic matter, lead, carbonate of lime, sulphate of lime, sulphuric acid, and iron. In conjunction with this apparatus the inventor, Mr. Danchell, of Red Lion-square, has issued a small pamphlet, containing plain and practical directions for its employment, so that any person—even one wholly unacquainted with practical chemistry—can, by following the instructions there given, test accurately the character of any given sample of water.

Of the impurities which are most prejudicial to health in water which is used as a beverage, undoubtedly the most objectionable is the decaying organic matter which is so frequently present, particularly in the springs of cities, and those situated near cesspools, manure heaps, churchyards or similar sources of animal impurity. It is generally stated that five grains of decomposing organic matter in the gallon render water positively poisonous; and the Metropolitan Board of Health have closed up a number of street pumps in which the water was contaminated with even a less quantity. In fact, there is no doubt but that even a single grain of organic matter in every gallon of water used as a beverage is prejudicial to health. The condition of the water in the cisterns in London and other large towns is often disgusting in the extreme. A layer of mud and dirt is gradually deposited, which is stirred up every time the supply comes in, so that the fluid abounds in decaying animal and vegetable matters of the most offensive kind.

Many springs situated near sources of impurity are regarded by those who use them as being pure and wholesome in consequence of the bright and sparkling appearance of the water; whereas in reality it may contain a large percentage of decomposing organic materials. One very striking example of this was shown to us by Mr. Danchell, where some water from a spring in actual use was shown, by the test of permanganate of potash, to contain as large a quantity of dissolved organic impurity as sewage water after depositing its sediment.

We consider, therefore, that a convenient apparatus which places it in the power of any person to test the character of the water that is employed in domestic purposes, and to ascertain whether its use conduces to the life or to the death of those who have to drink it, is a contrivance of very great value, and one doubtless which will be duly appreciated.

CARLIELL'S VENT-PEG.

The vent-peg delineated in the accompanying wood-cut, is so constructed that it perfectly closes the cask, preventing completely the escape either of the air from the interior or the entrance of the atmosphere from without. Both of these actions are necessary to the keeping of the beer in a good condition; for if the fixed air escapes, the beer becomes flat and stale; and if the atmospheric air enters the cask, it becomes sour.

When it is required to draw from the tap, all that is requisite is to press the top of the vent-peg with the finger for an instant, when the aperture is opened, and the liquid flows freely. We regard this vent-peg as superior in action to most of those in use, whilst in simplicity of construction it is excelled by none, and is therefore not likely to get out of order by any amount of fair usage. Although brought before the public with special reference to beer, we have noticed the invention in our columns, as it would appear to be equally applicable to other liquids.

BANNER'S FERRI CARBONAS EFFERVESCENS.

Mr. Banner, of Liverpool, has forwarded to us a sample of the above-named preparation. It is a granular white solid, without any shade of brown or green; one teaspoonful—containing ten grains of sulphate of iron, with an equivalent of carbonate of soda, besides a sufficiency of tartaric acid and carbonate of soda to produce brisk effervescences—on the addition of water, yields four grains of nascent proto-carbonate of iron. The carbonate of iron formed under these circumstances is perfectly dissolved, the solution being quite clear and bright. Mr. Banner claims to be the original maker of this exceedingly elegant ehalybeate. In the purity of colour, regularity of the size of granules, perfect and rapid solution, it is not surpassed by any other samples we have seen.

NEW BOOKS.

Circle of the Sciences (The.)—Vol. 6. Elementary Chemistry. The Imponderable Agents—Light, Heat, Electricity, Magnetism, the Simple Chemical Bodies, and their Inorganic Compounds. 5*s*.

Dresser (Christopher, Ph. D.)—Popular Manual of Botany, being a Development of the Rudiments of the Botanical Science without Technical Terms. 4*s*. 6*d*.

Lankester (Mrs.)—Wild Flowers worth Notice. Plain, 2*s*. 6*d*.; coloured, 4*s*.

Mayhew (Edward, M.R.C.V.S.)—Illustrated Horse-Doctor, being an accurate and detailed Account of the various Diseases to which the Equine Race are subjected, together with the latest Mode of Treatment, and all the requisite Prescriptions. 18*s*. 6*d*.

Sibson (Alfred, F.C.S.)—Every-day Chemistry. Sm. post 8vo, canvas bds. Routledge. 5*s*.

Startin (James.)—The Pharmacopœia of the Skin Hospital, containing the Formulæ and their Uses, as employed in 90,000 recorded Cases, and a Preliminary Address.

THE PARAFFIN OIL LAMP EXPLOSION.

The investigation in reference to the deaths of Mr. Montmorency Durante Stokes, aged 51, late resident at 18, Desborough-place, Harrow-road, who with his wife was recently killed by the explosion of a paraffin oil lamp, commenced on Monday, the 12th ultimo, and concluded on the following Wednesday, before Mr. George S. Brent, deputy-coroner for the western division of Middlesex, at the Bank of England, Cambridge place, Paddington.

Mr. G. H. Johnson appeared on behalf of the Paraffin Oil Company, 17, Bucklersbury, City.

Mr. M. B. Stokes was the first witness examined. He deposed that the deceased was his father. On the night of the 26th ult., the witness undertook to pour fresh paraffin oil into a paraffin lamp his father had lately purchased. His mother was holding a lighted match in her hand, and she accidentally dropped it into the lamp, which immediately exploded with a hissing noise, shivering the globe and upper part of the lamp into fragments, and scattering the blazing fluid over various parts of the room. It set fire to the window sash and furniture, which burnt in such an alarming manner that two fire engines shortly afterwards arrived. The flames were, however, soon subdued by the exertions of the deceased and others, but not until deceased and his (witness's) mother had both been frightfully burnt, and a large portion of the window sash consumed. The injuries his father and mother had sustained rendered it necessary to have them immediately removed to St. Mary's Hospital, where the latter died on Thursday week, and the former on Thursday last.

Dr. Odling, analytical chymist, of 6, Prince's-place, Kennington-road, on behalf of the Paraffin Oil Company, produced a sample of what was described as the genuine paraffin oil, and also another sample of oil which it was asserted had been purchased for the deceased at a shop in Margaret-terrace, Paddington-green. The witness showed that the genuine oil would not ignite by the insertion of a lighted match, and could not possibly explode; but the other sample did explode. It was, no doubt, the cause of the explosion that the latter had been used.

After a deliberation the jury asked for an adjournment, which was granted by the deputy-coroner.

On Wednesday, the deputy-coroner, in re-opening the proceedings, said the adjournment was solely for the purpose of ascertaining if the article which by a most disastrous and unexpected explosion had caused not only the death of the deceased, but his wife also, on whom an inquest had been previously held, alleged to have been sold for paraffin oil, was really paraffin

oil, or only a dangerous substitute. He could not do otherwise than look upon this inquiry as an important one to the public, and particularly to the poorer classes, considering the recent very large consumption of paraffin oil. He was willing to give the widest scope possible to the case. The important question now for the jury to decide was, whether paraffin oil was an article that could or could not be safely used. Dr. Odling, a gentleman experienced in analytical chymistry, had already shown that there was a dangerous article, sold for paraffin oil, which could not be used with safety; and now it was simply for him to inquire whether this was really paraffin oil or not; and he should again examine Mr. M. B. Stokes, son of the deceased, for that purpose.

Mr. M. B. Stokes, on being recalled, reiterated his former evidence as to the cause of the accident.

Other witnesses stated that the explosive fluid broke every pane of glass in one window of the room, and spread so rapidly that the sash was completely burnt out, and the ceiling blackened, charred, and cracked.

Miss Stokes deposed to having purchased half a gallon of paraffin oil about two months ago at Mr. Wood's, of Paddington green.

Dr. Odling then experimented with a part of the explosive oil which had been left untouched in the can, and an ordinary sample of the Paraffin Light Company's oil,—first, by showing that the explosive substance gave off an explosive vapour in the ordinary temperature, whereas the latter oil did not; and secondly, with lighted matches, set the explosive oil in a sheet of flame. The company's oil would only burn like a wick. He denied that the explosive substance was paraffin oil. It seemed a dangerous substitute, and to be petroleum oil; its gravity was but about ·794, but Young's patent paraffin oil was ·820, making the oil that exploded to be 26 degrees lower than that of Young's.

Mr. Woods, the retail vendor, was examined at some length. He had been made an agent of the Paraffin Light Company for the sale of their oil since 1859; during that time, however, he was pretty regularly supplied with oil manufactured by another party, from Messrs. Lamb and Palmer, of Old Broad street, as well as the company.

In a lengthened cross-examination by Mr. Johnson, witness admitted that he did not believe the oil that exploded to be Young's patent, nor did he believe it to be Lamb and Palmer's. He considered both were excellent articles. He had purchased no oil whatever from the company since the 1st of May last, and had been supplied from that time by Lamb and Palmer, and if the exploded oil had been purchased of him it was probably Lamb and Palmer's, which he called paraffin oil, but which was invoiced mineral oil.

Mr. Horner, as the representative of Lamb and Palmer, said he was prepared to show that their oil and that of Young's were manufactured of the same material, and that they never sent out oil at such low gravity as ·794, but generally from ·815 to ·825.

Mr. Johnson said the fact was, the Paraffin Light Company were the patentees of the paraffin oil, and no other oil was called by that name until after its introduction about five years ago. It now got into such general use that other people were induced to bring forward other oils and call them paraffin, although, perhaps, they were of a highly dangerous character. The Paraffin Light Company decidedly objected to any other oil but theirs being called paraffin.

The deputy-coroner briefly summed up, and

The jury, after a deliberation, returned the following verdict:—

"That, on the 8th of August, Montmorency Durant Stokes did die from the mortal effects of burns and other injuries of divers parts of his body, occasioned by his having become burnt by an explosion of the vapour of a certain substance called paraffin oil, but which was not the paraffin oil sold by the Paraffin Light Company, and that the explosion aforesaid, and the death of the said Montmorency Durant Stokes, were caused accidentally and by misfortune."

This fatal accident has given rise to a newspaper controversy on the inflammability of paraffin oil. We need not re-produce any of the letters which have appeared, as those which have proceeded from men acquainted with the properties of the various mineral oils, merely give the information which many articles in these pages have afforded. The following, extracted from the *Ironmonger and Metal Trades' Advertiser*, will no doubt be read with interest:—

"In consequence of a fatal accident happening recently from the mismanagement of a paraffin lamp, the subject of the supposed danger attending the use of these lamps has excited recently a great degree of interest. We therefore feel that a short notice of the matter may be useful.

"In connection with the notices of novelties in this journal, it has devolved on us to examine the construction of the lamps of almost all the different makers, and to test their value by actual experiment. Different varieties of oil of all specific gravities, from the lightest to the heaviest, have been sent to us for examination, and have been tested in various lamps. The result of our extended experience is, that with the most ordinary care there is positively no danger whatever in the use of paraffin or mineral oil lamps.

"It may be asked, What are the ordinary precautions that are necessary to ensure absolute safety in their use? The answer may be stated in the following rules:—

"I. The lamps to be filled by daylight.

"II. That they are not to be overfilled; the oil should not come into contact with the metal work of the burner.

"III. That any portion of oil spilled on the outside of the lamp be carefully wiped away, and that when not in use the wick to be constantly turned down into the wick holder.

"The object of the first rule is evident. The fatal accident to which we have alluded arose from the absurd neglect of this obvious precaution: a lamp was being re-filled with an oil of very low specific gravity—·794—at night, and a lighted match dropped into the interior, when the whole ignited, and becoming scattered about caused the unfortunate result.

"The second should be attended to, for from the heat given out by the combustion, a portion of the oil may be volatilized if it is allowed to touch the burner.

"The third rule is not essential to the safety of these lamps, but it is desirable to bear it in mind, as otherwise the oil is volatilized and produces a smell, which is obviated by its being attended to.

"We repeat that with ordinary care there is no danger in the use of hydro-carbon lamps; if foolish persons will refill them whilst burning, and produce accidents, they must really take the results of their own folly.

"We do not decry the use of coal gas because some idiots will persist in causing explosions by taking a light to discover the situation of the leakage, when their sense of smell informs them of an escape. Nor do we denounce the use of knives because a certain number of clumsy people cut themselves with these implements.

"It may be stated that the relative volatility of the oils as indicated by their specific gravity shows to a great extent the facility with which they ignite—the lightest oils are more volatile and more easily inflamed than those which are heavier. Oils much under ·800 inflame directly if a lighted match is thrown into them, whereas oils at about ·815 to ·820 cannot be set on fire in this manner.

"We should be quite willing to examine and to certify the specific gravity and relative inflammability of any specimens of oils sent us for that purpose.

"We have always advocated the employment of oils not of the lightest character, as the heavier oils contain a larger percentage of carbon, and are consequently more light producing than those of extreme lightness, and the lamps of the best construction enable them to be burnt readily.

"As we propose in our next to give a short notice of the specific gravity, inflammability, colour, odour, illuminating power, and general properties, of the various oils in the market, we shall be willing to receive specimens for the purpose of examination. This examination will of necessity entail a considerable amount of labour, but we consider that the possession of reliable information on the various oils is so important to the trade, that we shall most willingly incur the responsibility."

THE BYE-LAWS OF THE PHARMACEUTICAL SOCIETY.

The interesting correspondence on the proposed changes in these bye-laws continues to occupy a considerable space in the pages of our contemporary, and the fact that upwards of two hundred letters have been addressed to the editor proves the interest taken in the subject by the members. Whatever the final decision may be, we cannot doubt that good will result from the discussion. Up to the present time the "no's" appear to carry the day; and the reports of those local secretaries who have supplied returns of the number of chemists who might be expected to join under the proposed arrangement do not appear to be encouraging. Under these circumstances our contemporary "thinks it very unlikely that the Council will feel justified in proceeding further with the matter." Two correspondents in the last issue call attention to the expense entailed by the journal. Mr. G. G. Hornsby, of Bristol, writes: "In looking over the balance sheet I perceive an item for journals, postage, &c., to the amount of 599*l.* 10*s.* 3*d.* Upon this I have made a rough calculation, and find that there is an annual cost to the Society for the postage of journals of somewhere about 160*l.* My first proposition then is:—Do away with this by calling upon each member and associate, &c., to pay his own postage; this would give an immediate increase of 160*l.* per annum raised in pence, and I have no doubt there are other small items which might be cut down, and thus increase the amount to 200*l.*" He adds: "Then I would propose that the present admission fee be somewhat reduced, and the usual *annual* subscription of 10*s.* 6*d.* and 21*s.* be added thereto. If this be objected to, make a calculation of what is requisite to maintain the Society properly, and then place an *increased* amount on the examination fees already existing, receiving the *whole* amount when the examinations are passed, and '*not*' allow *any part* to remain over until the member becomes established in business. If there is a *present* emergency for funds, I would suggest that a *call* be made upon the members sufficient to raise up a sum to meet it, and I doubt not but it would be liberally responded to, and we should give the public, and Parliament too, a very practical proof that we are able to maintain ourselves." Mr. T. W. Gissing says: "I think the members should not have the journal gratis on paying an annual subscription of one or two guineas, or being life members, and under the latter

category I include all who have entered under the present bye-laws. If members wished to have the journal, they should pay just as much more (in even money) as the net cost of the journal to the Society; thus that heavy item of 600*l.* would be annually saved. I think this last proposition deserving the very serious consideration of the Council." We believe the journal question is occupying the attention of the Council, and, if any faith is to be placed in Rumour, with her hundred busy tongues, that they have before them an offer which will entirely relieve the Society from all outlay in that direction. Mr. F. P. Balkwill, of Plymouth, after remarking that "the chemists work hard, late and early, and are badly paid," while "they might fairly expect a remuneration equal to their position and education, which proportionately to other trades they do not get," goes on to observe, that "when young men have been prompted to expensive courses of study, and masters have paid their fees, some mischief-makers concoct a counter society to rob *the Society* of the fruit of its labours, to prevent legislative enactments, and to destroy the protection with which it has been seeking to guard its members. I stigmatized such efforts in the *Chemist and Druggist* as mean and unjust, and I still hold them to be so;"—and finally lands his argument in that paradise of Pharmaceutists, "compulsory legislation." Several writers advocate the creation of "Fellows." The correspondence on the subject is immediately and appropriately followed by the following trial, bearing on—

THE TITLE OF PHARMACEUTICAL CHEMIST.—(Bloomsbury County Court, August 21st, 1861.) *The Pharmaceutical Society* v. *Mikisch*.—Mr. Flux stated that the action was brought to recover 5*l.*, the amount of a penalty incurred by the defendant in "assuming, using, and exhibiting" the name of Pharmaceutical Chemist, contrary to the provisions of the Pharmacy Act. The title of Pharmaceutical Chemist was a distinction limited by Act of Parliament to registered Pharmaceutical Chemists, and unauthorized persons not unfrequently assumed the use of it. The Council of the Society of course protected the privileges of its members, and hitherto the threat of proceedings had in every instance induced offenders to discontinue the causes of complaint, and thus it had occurred that no earlier case had been brought before the Court. In the present instance every opportunity had been given to the defendant to settle the case upon the condition of his discontinuing the offence, but he asserted a right to use the title "Pharmaceutical Chemist," and consequently the Council had no alternative but to try the case. The Registrar of the Court suggested that as the defendant was a foreigner, he should instruct an attorney, Mr. Flux expressed his willingness to adjourn the case if the defendant wished it. The defendant (who spoke English fluently) said that he did not require an attorney. Mr. Elias Bremridge was called and sworn. He was the Registrar of the Pharmaceutical Society of Great Britain, and was authorized by the Council to sue the defendant in the name of the Society. He had seen the words "Surgeon and Pharmaceutical Chemist" written over the door of the defendant's shop at No. 141, Great Suffolk Street, Borough. He produced the Register of Pharmaceutical Chemists. The defendant's name did not appear on such Register. The defendant produced a diploma, entitling him to bear the title of "Pharmacien" in Belgium, and asserted that he was a Surgeon in England, and that consequently he was entitled to use the title Pharmaceutical Chemist. The learned Judge referred to sect. 11 and 12 of the Pharmacy Act, and expressed his opinion that no persons, unless duly registered, could lawfully use the title of "Pharmaceutical Chemist" within Great Britain, and also that no "Surgeon" could be a Pharmaceutical Chemist. The defendant had clearly incurred the penalty of 5*l.*, and judgment must be given for the full amount. He should have reduced the amount if the Act of Parliament had given him power so to do, because the defendant appeared to have acted under a mistaken view of the law, and he suggested that judgment should be waived Mr. Flux said that he would take the judgment, as he could refrain from enforcing it if the Council should so instruct him, and the Council would no doubt have regard to the defendant's future course of conduct. The learned Judge then informed the defendant that he would incur further penalties by continuing the unauthorized use of the title. Judgment was then taken for 5*l.* and costs.

INTERNATIONAL EXHIBITION, 1862.

Since our last publication, Her Majesty's Commissioners have issued their decision concerning the medals and juries.

Prizes, in the form of medals, will be given in Sections I. II. and III. only. These medals will be of one class, and there will be honourable mention as in 1851. No exhibitor will receive more than one medal in one class. The medals will be adjudged by an international jury formed for each class and sub-class. The Foreign Jurors, one to each class and sub-class, will be nominated by the Commissioners belonging to their respective countries. The British Jurors will be chosen in the following manner:—

Every exhibitor will name three persons for each class in which he exhibits, and the Commissioners will select three names from the aggregate number. The names of the Jurors will be published on 1st March, 1862. The Jurors will decide on their awards before the 31st May, 1862, and the medals will be distributed early in June, at a grand public ceremonial. They will, immediately after, be attached to the counters of the exhibitors,

with a brief statement of the grounds upon which the award was made. As in 1851, no Juror will be allowed to receive a medal.

The arrangements touching the Catalogues have also been made public.

There will be three Catalogues: a 1*s.* Industrial Catalogue, a 1*s.* Fine Arts Catalogue, and a more expensive Illustrated Industrial Catalogue, which will be sold in 1*s.* parts, each containing one or more classes.

All advertisements for these must be forwarded before March 1st, 1862, after which time the rates will be doubled, until April 1st, after which date no more will be received. The rates for the 1*s.* Catalognes are high:

5*l.* for 10 lines. Half page, 30*l.* Whole page, 50*l.*;

but as the circulation is guaranteed at 250,000, the medium will be a cheap one.

If Exhibitors wish to insert detached descriptions of their goods, or illustrative woodcuts, they will be allowed to do so at 1*s.* per line, or 5*l.* per page.

The advertisements will be inserted at the end, at the following rates:—

Five lines, 10*s.* Half page, 5*l.* Whole page, 10*l.*

The applications for space are daily increasing. We would remind our readers that October 1st is the last day on which applications will be received; also, that mere importers and venders will be rigidly excluded.

The writer of the interesting articles on the Exhibition which have appeared in the *Times* lately gave a list of trades, which the Commissioners had some difficulty in classifying. This list called forth the following explanations as regards some of these trades, from Mr. Denton, of Leeds: Flaters—A trade followed in Sheffield, and connected with the steel trade. Iron Liquor Manufacturers—A branch of manufacturing chemistry, principally pursued in Leeds. Machine Combers—An important branch of the wool trade; prepares wool such as is used in the Bradford or stuff trade; should be classed with the manufacture of stuffs, &c. Plain-back Manufacturers—A branch of the stuff trade, principally pursued in Halifax. Scribbling Millers—An important branch of the manufacture of cloth. Sheathery Manufacturers—A branch of the Sheffield trade. Tin Spirit Manufacturers—A branch of the trade of a manufacturing chemist. Ware Grinders—Persons who grind dyewoods; should be classed with drysalters. Woolley Teeth Makers—A trade connected with the machinery used in the manufacture of woollen cloth; should be associated with woollen machinery.

Mr. Dahlke, of Bolingbrooke Works, Battersea, has been appointed the agent in this country to the Royal Commission appointed by the Prussian Government. We understand that he intends securing suitable premises, and that he will be prepared to carry out for exhibitors here or abroad the necessary preliminaries in connection with the forthcoming Exhibition.

Colchicum.—A neat passage-of-arms occurred in the House of Commons, shortly before its dissolution, between Bernal Osborne and the Premier, touching the action of this treacherous drug; and the Paris correspondent of the *Lancet* reports the following in connection with the same subject:—"Garibaldi is reported as sick at Caprera, and suffering from the effects of an over-dose of 'Leroy.' Some of your readers may possibly not know what to make of this regal bisyllabic, which, more potent than Bomba or Francis the Second of Naples, has lain prostrate the hero of Southern Italy. For their information, then, 'Leroy,' 'medicine or liqueur Leroy,' is a powerful drastic, fifty years ago very fashionable in France, and long the patented secret of the man whose name it bears. It consists of a mixture of scammony, colchicum, jalap, and turbeth-root (Ipomœa turpethum), dissolved in alcohol, and sweetened with sugar; and its effects upon the human economy can be better understood than described. However, about forty years ago, when 'Leroy' was at its zenith of popularity, a Russian princess, fresh from Paris, found herself suddenly brought to a halt in a mountain pass in the Abruzzi; her carriage, surrounded by brigands, was speedily lightened of its contents, and, amongst other valuables, out tumbled two or three case-bottles, jauntily bedecked with coloured paper, and labelled 'Liqueur Leroy.' One of the brigands, an ecclesiastic no doubt, could read, and as the day was hot and the hill side sunny, the bottle was uncorked and passed round. '*Excellente!*' says the first; '*Magnifico!*' the second; and so on until the flask was empty. Brigands do not love heel-taps, so another cork was drawn, and another, until the whole stock had disappeared, and the rifling of the princess's band boxes was resumed. 'Santo Diavolo!' and an exclamation of horror appended, was suddenly heard from one of the party, as in a painful but significant attitude he scampered off round a corner. 'Madonna mia!' shrieked another, as he followed the first, hugging his abdomen in agony. A full account of the parting ejaculations of each as he escaped, though carefully registered by the courier, who sat maliciously watching the fun, would be too long, although strictly medical and symptomatic, to recount; so I wind up what might be a long story by saying that the Russian princess got off scot-free with the exception of the loss of her private pharmacy, and that the country was effectually *purged* from brigands. Garibaldi should send the remainder of his medicine to the Abruzzi, where it seems to be indicated just now. Cialdini's *lead* treatment is very slow of operation."

IMPORTANT DISCOVERY.—Under this heading Mr. T. Dawson, a medical officer, writes to the *Times* as follows:—"On the 28th of June last Captain Rhodes, of the cod smack Resolution, of London, accompanied by the Adventure, Captain Gardener, of Gravesend, returned here from the Faroe Islands and Iceland, clean, after a trial of six weeks, reporting that the fishing at Faroe this year was a failure, and all the smacks had gone to Iceland, where the fish were very scarce also and in very poor condition; and he informed the writer that he now intended to go and try a place called Rockall, 360 miles west by south of this island, and his reason for going there in preference to remaining in Iceland arose from the following conversation he had with the mate of an Irish vessel about fifteen years ago. They had been messmates together some years before that, in a man-of-war, and upon Captain Rhodes informing his old comrade that he was captain of a cod smack, and went every summer to the North Sea to fish cod,—'The North Sea be blowed!' says the ancient mariner, 'you don't know where to catch cod, you don't. Go to Rockall, where there is a bank, eighty miles in length, swarming with fish. I have been two or three times becalmed there, and caught cod as big as donkeys and as plenty as blackberries.' Upon that information Captain Rhodes acted. He had often thought of trying it, but it is a lonely place to go to alone, St. Kilda being the nearest land, and that 130 miles off; so he persuaded Captain Gardener to accompany him. Accordingly the two vessels sailed from here on the 2nd of July, and to the astonishment of the curer to whom they consign fish here, and all conversant with cod-fishing, they returned again on the 13th of July, the one having caught nearly fifteen tons, the other twelve tons of the largest cod-fish ever seen, many of them weighing when caught one cwt., thus having (in value here) each caught above 100*l.*-worth of cod in five days' fishing. Captain Rhodes informs me that they caught the fish as fast as they could bait and haul, and when any of the cod escaped from the hook great monstrous sharks, as blue as if painted with a brush, darted round the ship's side, and swallowed them in an instant. The very sea-birds were tame, evidently never having been disturbed there by man, some of them flying aboard and eating the offal. The livers of the cod, he states, were also very rich, and produced large quantities of oil. I have examined the cod; they are very large and very thick; the tusks are very thick and fat, but shorter than usual, while the ling are the same as those caught at other places. This solitary rock in the ocean, which will for a time become the El Dorado of our cod smacks, rises about the height of a ship above the sea, and over it in a storm the waves leap wildly, singing the requiem of many a gallant ship whose fate has been unknown, or for whose loss an iceberg has no doubt been falsely accused. The two vessels have again started for the fishing-ground, and when they return I will forward more particulars of their success, and Captains Rhodes and Gardener will be most happy to give every information for the guidance of others.

"P.S.—I think it would pay a company to send out a vessel along with the smacks for the purpose of collecting the offal, tons of which must be thrown into the sea. The heads, backbones, and intestines, mixed up with the peat-dust of Ireland, would make a manure in the course of a few months far surpassing in richness the best guano ever tried."

THE PATENT MEDICINE LICENSES expired on the 1st instant, and must be renewed this month.

LEGAL INTELLIGENCE.—Huggins, *v.* Jonas.—The *Western Times* gives the following report of this case, recently tried at Exeter: "The plaintiff, a chemist and druggist of this city, claimed of defendant, a pawnbroker, 2*l.* 8*s.* 9*d.* for medicine. Mr. Willesford appeared for defendant's wife, the defendant being now an inmate of an asylum. Mr. Huggins stated that he had supplied, from time to time, the defendant with pills, draughts, &c., and it was elicited, in cross-examination, that the plaintiff had on one occasion remonstrated with Mrs. Jonas for allowing her husband to take four times as much medicine as he ought to have taken in one day. When Mr. Jonas came to his shop he complained of certain pains, asked for a remedy, and medicine was accordingly supplied by plaintiff. Mr. Willesford said that the defendant was insane at the time these medicines were prescribed, having been, by the kindness of his friends, allowed to be at large too long. The defendant's wife complained that medicines had been supplied to her husband, whilst in that state, in undue quantities, and that was her reason for resisting the claim. His Honour (to plaintiff).—You have no right to prescribe without a certificate. Plaintiff.—I think we have, your Honour; but we have no right to visit patients. His Honour.—Will you show me the right? I do not know how you can recover for anything prescribed by yourself. Plaintiff.—I have never seen anything to the contrary. Of course I give up to your Honour's judgment, but I know of no law to prevent my prescribing. His Honour.—The first thing I ask, when an apothecary comes with his bill, is for his certificate as belonging to the Company, and I require this before I allow him anything. Plaintiff—It would be very awkward, when persons come to our shops very ill indeed, and ask us for some medicine, if we could not prescribe for them. Mr. Daw.—Such persons should send for a medical man. His Honour.—The doctrine laid down by the plaintiff is new to me. Have you any doubt as to my ruling, Mr. Daw? Mr. Daw.—None whatever, your Honour. Indeed, I go further, and say that he is liable to prosecution. If I go to a druggist's shop, and say I am ill, and want a box of Cockle's pills, or any other medicine, the druggist may supply it; but if I say, 'I am ill, what had I better take?' and the druggist prescribes for me, then he is

acting contrary to law. His Honour.—Just so. In the present case, I am not sorry you have got a pound (the amount agreed to be paid), but I think you are lucky to get it. His Honour then repeated, in substance, the law as expounded by Mr. Daw, and said it was very important in a city like this that it should be well understood."

Poisonings.—At Bideford, Miss Rowland, aged forty-one, who had been a governess in Lord Clinton's family, had an attack of diarrhœa, and sent to Mr. Thomas Griffiths, chemist, for three penny-worth of tincture of rhubarb, and three drops of laudanum. On taking the medicine she became sick; her hands soon became clenched, face swollen, and eyes shut, and she died in a few hours. An inquest was held and resulted in the following verdict:—"Died from taking laudanum inadvertently supplied by Thomas Griffiths instead of rhubarb."—The Court of Assizes of Brabant, sitting at Brussels, has been occupied four days in trying a man named Delvaux, a teacher by occupation, on the charge of having attempted to poison his wife. Notwithstanding the length of the trial the facts of the case, as appeared in evidence, were few:—He lived at Ixelles with the woman, and as she was always ill, he grew weary of her, frequently complaining to his neighbours that she was a burden to him, and even declaring that he would find means of getting rid of her. Some time back the woman, on taking a cup of tea, found that it had a bitter taste, and perceived that it contained a white substance; she questioned him, and he admitted having put a white powder into it, but declared that it was medicine, which would do her good. She, however, declined to drink the beverage. On numerous occasions afterwards she was seized with vomitings and pains in the stomach after partaking of food prepared by the man. She was, besides, often obliged to refuse to eat things he presented to her because the taste was bitter, and when she did so he used to fly into a passion, and to attempt by force to make her take them. On the 12th of May, after eating part of a sausage which he brought home, and of which he declined to partake, she was seized with the symptoms of poisoning; she sent for a medical man, and he, after applying remedies to the woman, found that the sausage contained arsenic. The husband was then arrested, and he had on him a quantity of that poison. The jury declared him guilty, and the court condemned him to death.—Mr. Humphreys held an adjourned inquest on Tuesday, August 6th, at the Half-Moon and Crown, Swan Street, Bethnal Green, on the body of Benjamin Connor, aged twenty-nine, who committed suicide by swallowing a large quantity of sugar of lead, and stabbing himself through the heart with a pocket-knife. The deceased was a weaver, and had formed an attachment to a young woman; a quarrel took place, and the deceased proceeded to a chemist's shop in High Street, Shoreditch, where he purchased a pennyworth of sugar of lead, and when he reached the street he was seen to bite off the end of the paper, and swallow the contents. He then walked to a public-house and drank off half a pint of beer. He suffered excruciating pain, and the sister ran for medical aid, but before it arrived deceased had expired. Verdict—"Temporary insanity."—On Tuesday, August 13th, at the Marylebone Police Court, Inspector Gibson informed the magistrate that a woman named Sarah Garnett had died from the effects of poison. It appeared that the deceased was taken when drunk to the station, and soon afterwards was found apparently insensible. A doctor was sent for, who did all he could for a person supposed to be labouring under intoxication; but having been informed by the daughter of the deceased that her mother had told her that she had taken poison, and had given her a bottle labelled "Laudanum," the doctor altered his treatment, and used the stomach-pump. All remedies, however, proved unavailing.—Mr. Edward Casson, aged thirty-three, who for nearly seven years had held the post of resident medical attendant at the Thorpe Lunatic Asylum, and who was only recently promoted to the situation of resident medical superintendent of the same establishment, at a considerable increase of salary, has committed suicide by taking prussic acid. Since the elevation of Mr. Casson to the position of superintendent, it appears that certain charges, the nature of which has not transpired, have been brought against him, and on Tuesday, July 30th, these charges were investigated by the committee of visiting justices. The result was, that upon the evidence adduced before them, and from Mr. Casson's own admissions, the committee unanimously recommended him to resign his situation in a month. Mr. Casson was reluctant to do this, but after being called before the committee a second time, he consented, and sent in a written resignation. Since then it was noticed that he was much depressed in spirits. On Friday, Aug. 9th, Mr. Casson sent to the shop of Mr. Cubitt, the chemist who supplied drugs to the asylum, for two one-ounce bottles of prussic acid, and on Sunday, at half-past twelve o'clock at noon, he was found lying dead upon the carpet in one of the rooms, a mug from which he had probably drained the poison standing on the table, and the two bottles for which he had sent to Mr. Cubitt lying nearly empty in a cupboard. On Monday, Aug. 12th, an inquest was held upon the body, before E. S. Bignold, Esq., and a verdict was returned that he died from taking prussic acid while in a state of extreme mental depression.—H. Wilkins, aged 55, was tried and found guilty at Liverpool on the 14th ult., for unlawfully administering cantharides to Rachael Sutcliffe.—A correspondent of the *Times* observes: "A few days ago I bought of a chemist what is called a meerschaum-coloured pipe—a pipe made of common clay, and treated with arsenic to improve its appearance. The chemist was careful to inform me that the lips were not to be allowed to touch the pipe, but that it was to be used with an india-rubber mouthpiece. The reason he did not

state. A nephew of mine, a medical student, who happened to be visiting me, when he saw me with it at home, suggested that I should not use it, for, he said, 'All our fellows have suffered from them.' His 'fellows' are the students of the medical school of which he is a member, and after using these pipes they have been attacked with sore throats and the other symptoms of arsenic taken into the system."—Another correspondent of the same journal writes: "A child of mine purchased, at a respectable toy-shop, a toy which I believe is called 'Flying Butterflies.' The wooden part is of a bright green colour, which caused me to suspect that it was most likely 'emerald green.' Upon examination I found it to be so—*i.e.* a compound of arsenic and copper, or arsenite of copper, one of the most powerful of all the mineral poisons. The colour is not painted on with oil, but smeared on with water, and so it is easily removed by sucking, or by being placed in a glass of water. I may, with your permission, also state that I have examined several hanging-papers of various shades of green, in all of which I have detected an amount of this arsenite of copper which is really astounding, and the use of which must be, to say the least, dangerous."—"Pro Bono Publico," who says he is not a pharmacist, but one of the public, advocates, in the *Pharmaceutical Journal*, the employment of narrow-necked bottles. He says,—"I am not aware what plans are in contemplation, but I would wish to point to one which I believe less likely than any other to meet with opposition. It is, that the *narrow necked* or 'safety bottles' be adopted generally for keeping and sending out liquid poisons in. I cannot imagine that any reasonable objection can be brought forward against the use of such a simple and inexpensive plan. It could only be negatived by those chemists who obstinately set their face against any change of the kind, however useful and needful it may be; but it is to be hoped that in these days such non-progressionists are few in number, and form a very small proportion of the brotherhood linked together for the purpose of raising the educational *status* of chemists."—William Beamish has been committed at Coventry on the charge of poisoning with arsenic his wife and child. It appears from the evidence that the prisoner was a riband weaver, and that on the 14th ult., while at breakfast, the whole family was seized with vomiting. The child, Emily Beamish, fell in convulsions on the following day, and died at night in the arms of the nurse. Mrs. Beamish, however, lingered. On the Saturday she was so much better that recovery appeared possible; but she experienced a relapse, and on Tuesday, the 20th, she died. Dr. Goate, a local practitioner, had been called in by the prisoner to see "a woman and child with the bowel complaint," but no suspicions were raised in his mind as to the cause of the sickness, and he gave a certificate of death from diarrhœa. A *post mortem* examination of the bodies revealed excoriations of the lining membranes of the mouth, and an inflamed state of the stomach, as well as other symptoms of acrid poisoning. The contents of the stomach, as well as the viscera, were forwarded in a jar to Dr. Wrightson. He made an analysis, and found arsenic in a small quantity in the stomach, and evidence of the poison in the liver, the blood of the heart, and the transverse colon. Inquiries were made which showed that the prisoner had made repeated endeavours to purchase arsenic immediately prior to the sickness of the deceased. He first of all went to the shop of a Mr. Parkes, chemist, Hill-fields, and asked for a pennyworth of arsenic, remarking that he had obtained some previously to mix with soft soap, to destroy bugs. Parkes could not, or would not, sell the arsenic. Three days afterwards he called upon Mr. Jenkins, chymist, Smithford-street, and asked for three pennyworth of arsenic to poison rats, with which he said he was very much annoyed, but being informed that it could not be sold without a witness as to what it was required for, he went away for one. He called again the same day, and asked the assistant for arsenic, but the latter said they did not keep it. He recommended "Battle's vermin killer" and phosphor paste as efficacious in killing rats, but the prisoner said he had tried them both and they would not do. He was then recommended to try the ordinary cloe-fig. On the following Monday he called again and purchased one pennyworth of cloe-fig, stating that he had not obtained any arsenic. When taken into custody he stated that he had used the arsenic for the purpose of destroying the rats which infested the pens and beans in his garden, where he said there was a quantity scattered, but none was found. The cloe-fig, not used, and the empty arsenic paper, labelled "poison," were on his person. A considerable quantity of the arsenic taken by the deceased, and especially the woman, must have passed in the matter ejected from the stomach whenever she vomited. Mr. Powell, who conducted the defence, made a point of the fact that, while only an infinitesimal quantity of arsenic had been found in the stomach of the deceased, the opinion of first-class analytical chymists showed that no smaller quantity than thirty-eight grains would cause death. No testimony to controvert the facts of the case as stated above was adduced. The Coroner, in summing up the evidence, said the opinion of Mr. Taylor, one of the first analytical chymists of the day, was quite controverted by Mr. Powell, and there was no doubt but that very small quantities of arsenic, such as a grain or two, had been known to cause death. Although it was quite true that a small quantity only was found in the contents of the stomach, the poison was traced in every part of the human system under analysis; so that, while she took that particular quantity of arsenic found in the stomach, she must have absorbed a deal more into the system, and much more must have been vomited away. The coroner expressed his great regret that he had to censure one of the witnesses who had given his evidence in a very straightforward manner, but he felt con-

strained to say that Dr. Goate had acted very wrongly in giving a certificate of death from diarrhœa. He understood that it was a common practice for the medical men of Coventry to give certificates of death, when they knew nothing whatever of the cause; and in this case, if the doctor had had the moral courage to perform his duty it was very probable that an inquiry would have taken place, and have saved the mother's life. He believed that Dr. Goate was extremely sorry for the inadvertence.—In our July number we mentioned that Mrs. Peel, wife of the Very Rev. the Dean of Worcester had accidentally taken a large dose of laudanum which nearly caused her death. We are sorry to inform our readers that this lady expired on Wednesday last, at St. Leonard's-on-Sea.

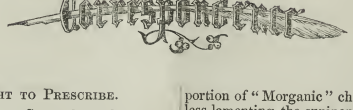
Fire at a Pharmacist's.—Between ten and eleven o'clock on Thursday forenoon, a fire broke out in the premises of Messrs. Allen and Hanbury, wholesale chemists, situate in Plough-court, Lombard-street, City. It commenced in a cupboard, in a vault under the street. The damage may be described, considering the extent of the building, as very trifling; but the alarm for some time was great, many fearing that the fire would reach to some of the public insurance offices. Fortunately such was not the case, owing to the timely arrival of the Brigade with the engines.

Academy of Sciences.—At the last sitting the secretary announced the loss which the Academy had sustained by the death of M. Berthier, one of its members. Dr. Curie sent in a paper on a curious and hitherto unobserved instance of Hahnemann's doctrine—*Similia similibus curantur*. He states that if the *Drosera rotundifolia*, or sundew, be administered to cats for a certain time, it will determine the formation of tubercules in the lungs, and the abnormal development of several parts of the lymphatic system; and that, on the other hand, the alcoholic tincture of that plant, administered in doses of from 4 to 20 drops to patients suffering from tubercules, will cure the disease with certainty, provided the general state of the body be favourable. The above doses show that Dr. Curie, although announcing this instance of the truth of Hahnemann's doctrine, is by no means in other respects a disciple of homœopathy. M. Bonnet communicated certain remarks on the spontaneous decomposition of gun-cotton under the influence of diffused light. The gun-cotton on which he observed this action of light had been prepared in 1856, that is, four years before its decomposition. That which became first decomposed had been prepared with a mixture of nitrate of potash and sulphuric acid, while another sample, which was decomposed later, had been prepared with a mixture of nitric and sulphuric acid. In both cases the decomposition was preceded by the appearance of red vapours; but in the first case the action was much stronger, since the stopper of the phial was forced out, and the neck was cracked. In the same case the residue of the decomposition had the appearance of a substance which had once been liquid, being full of solid bubbles; in the other case, on the contrary, it was compact and strongly agglomerated; in both cases the sides of the phial were covered with small crystals of oxalic acid. The atmosphere of the second phial was acid and attracted water; the acids it contained were carbonic and formic acids.—*Times*.

School of the Pharmaceutical Society.—We regret to hear that Mr. Braithwaite, who must be well known to many of our readers, has seceded (to use a phrase now much in use) from the School at Bloomsbury-square. His long experience in the difficult art of preparing students for their examinations will not, however, be lost, as we perceive by our advertising columns, that he intends continuing to give private instructions.

Percolation under Strong Pressure.—M. Signoret, Pharmacien of Paris, has suggested an apparatus for extraction, in which it is proposed to hasten the process of percolation, by employing the force of compressed air upon the surface of the liquid in the percolator. The apparatus consists of a reservoir of metal for the compressed air, of such strength as to resist from two to eight atmospheres according to the force desired. Attached to this is a forcing pump, worked by a lever. On four opposite points, in the sides of the reservoir, are placed four stop-cocks, with coupling screws, for attaching tubes connecting the reservoir with the tops of four percolators. In employing the apparatus, the material in powder is put in the percolator, perhaps previously moistened, and the menstruum poured upon it, and then the pressure of the reservoir brought to bear upon its surface. M. Signoret believes that, by this mode and arrangement, substances are more thoroughly and quickly exhausted than by maceration or ordinary displacement. Even flour of mustard, mixed with an equal bulk of sand, can be exhausted. Wine of cinchona was made in twenty minutes before a committee, who examined the apparatus. The price is quoted as from 200 to 300 francs, according to whether one or four percolators are attached to the reservoir.—*Amer. Jour. Phar.*

Pure Carbonate of Soda is prepared by W. Lienau from crude soda by dissolving it in distilled water, and diluting with six or eight times the quantity, and precipitating lead and iron by a current of sulphuretted hydrogen. The sulphide of sodium is decomposed in contact with oxide of iron, a little bicarbonate of soda is added to neutralize some caustic soda, and the filtrate is evaporated and allowed to crystallize, so long as pure crystals are formed.—*Amer. Jour. Phar.*



The Right to Prescribe.

September 4th, 1861.

Sir,—Several letters on this subject have lately appeared in your columns, with a view of discussing and ventilating the question, but from a report which appeared in the *Pharmaceutical Journal* for August, it appears that the question is well nigh settled for us. Mr. Huggins, a chemist, sued a party in the Exeter County Court (J. Tyrrell, Esq., Judge) for medicine *prescribed* and *supplied* by himself, and was *nonsuited*. His Honour ruled that a chemist has *no right to prescribe without a certificate*, and, moreover, that he is liable to a prosecution for doing so. If such is really the fact, the sooner chemists are informed of it the better, as there is not one chemist in a hundred who is not daily exposing himself to the penalty. But I am unwilling to believe it is a fact. It is undoubtedly true, that by the new Medical Act no one can recover "for any medicine which he shall have both prescribed and supplied," unless he is registered. This Act came into force on 1st January, 1859; but I know of no Act which renders a chemist liable to a prosecution if he chooses to prescribe at his own risk of ever getting paid for his trouble. Chemists have enjoyed this privilege from time immemorial, and in the Apothecaries' Act of 1815 a clause was introduced protecting them from that time to the present. Their right to prescribe behind their own counters was never called in question until very recently, but by what Act I know not. I shall therefore feel obliged, as will many of your readers, if you can inform us and put us right upon this subject. It appears a great injustice that we cannot sue a dishonest man for whom we have prescribed and supplied with medicine to the best of our ability, when he refuses to pay our just demands; but if we are to be prevented from prescribing for the respectable community who do intend to pay us our trifling charge, it is a still greater infringement upon our rights and privileges, besides putting the public to the great inconvenience, and still greater expense, of calling in a medical man for every trifling ailment. The case at Exeter is a very important one, inasmuch as if Judge Tyrrell's decision be correct, it will affect every chemist in his trade, and instead of his rising in the scale of society, despite the educational efforts of the Pharmaceutical Society, can it be wondered at if he sinks to the level of a common tradesman, and, to maintain his family, be compelled to unite with his business the sale of grocery, oils, varnishes, paints, brushes, &c., besides a large portion of "Morganic" chemistry? It is useless lamenting the supineness of our profession in not opposing this infringement on our rights and privileges; our redress now rests with the United Society, the Committee of which will, I trust, use their best endeavours to get that portion of the Act repealed, so far as it affects the great body of chemists, otherwise, after a few more prosecutions and daily public inconvenience, reaction must and will take place, and will result in an united effort by the trade and the public at large to resist and overthrow medical monopoly. Surely, if chemists are to be strictly prohibited from prescribing, medical men ought in return to be as strictly prohibited from dispensing their own, or others', prescriptions, leaving that department entirely to its rightful owners—the chemists.—I am, sir, yours obliged,

A. B.

Legal Query.

Southampton, August 30th, 1861.

Dear Sir,—It would be a satisfaction to many in the trade to know, whether an assistant, having made an engagement, is not bound by law (as with a domestic servant) to fulfil the same, instead of frequently, after having agreed to terms, time, &c., &c., writing, "from circumstances over which he has no control he must decline, &c., &c."

If you will answer this in your page of replies, you will oblige

Yours very truly,

George Manby.

[We must refer our respected correspondent to article, "Legal Queries," p. 247 in our last. We have no doubt, however, that *if it was worth his while*, the engagement could be insisted upon.—Ed.]

Early Closing.

Sir,—At the commencement of your Journal you professed to do, or professed you would do, a great deal towards the earlier closing of the chemists and druggists. I do not find that any improvement has generally, at present, been made in earlier closing; I therefore beg to inform you of it, that you may use your influence (which I know you will do) to lessen the labour of both assistant and employer.

There have been men calling on the chemists in our neighbourhood, trying to get our employers to close at 9 P.M. instead of 11 P.M., but without effect, except in as far as this, viz.

—That all have agreed to close at nine o'clock P.M., but neither likes to be the first, each wishing to obtain the last customers.

Now, sir, what sort of feeling do you call this? Is it not something after the action of the dog in the manger, who cannot eat the horse's food, and neither will he let the horse.

Did you ever hear of such mistrust amongst any other class of tradesmen; and yet chemists class themselves, and think themselves, much above their neighbours, the grocers and other tradesmen? If you will insert this in your next number you will greatly oblige,

Yours respectfully, L. O.

Notes and Queries

Large Crystals.—J. C. B. Chrome-alum is particularly easy to proeure in large crystals. Make a saturated solution, and allow it to deposit its first crop of crystals. The mother-liquid is then to be set aside to evaporate spontaneously, and at the end of a few days a number of crystals will be found, some of perfect shape; these are to be selected and put into a shallower vessel by themselves, and covered with a fresh cold saturated solution. Every day they must be turned with a piece of wood on to a different face. At the expiration of every few days the liquid must be replaced by fresh solutions. Gigantic crystals, five inches long, have been thus produced.

Electro-plating Metals.—J. F. P. When an ornament of white metal is to be coated with silver by this means, the metal foundation, properly prepared, is dipped into a chemical solution of silver, and a galvanic current is passed through it. The result of this action is, that the solution is decomposed, and a fine film of metallic silver becomes deposited on the surface of the article suspended in the liquid; the thickness of the deposited layer being determined conjointly by the duration of the immersion, the strength of the solution, and the strength of the current. In the progress of the operation the solution becomes exhausted of its silver; and to keep up the supply, plates of pure silver are suspended in it; the silver dissolves in the liquid as rapidly as the deposition on the articles takes place, atom for atom.

New Pharmacopœia.—"Isa" is informed that great efforts are being made to complete the New British Pharmacopœia by the end of the year, so as to have it published before the opening of the Exhibition. "Isa" appears to have overlooked the paragraph in our last on this subject, also the receipts which have so often appeared in our pages for baking powder.

Dr. Frankland's Gas Burner.—We do not think this clever invention has ever been practically introduced.

Meerschaum.—T. H. This mineral is found in Asia Minor, Anatolia, at Baldisero, in Piedmont, and in several other parts of the world. When pure it consists of *silica*, 60·9; *magnesia*, 26·1; *water*, 13·0. It is very soft when first dug up; and as it absorbs grease and lathers like soap, it is used by the Tartars in washing linen. The bowls of pipes carved from it are prepared for sale by soaking them first in melted tallow, then in wax, and afterwards by polishing them with shave-grass.

Poisoned Wheat.—The enquiry in our last on this subject has brought the following from W. C.:—"In answer to a 'Country Chemist,' respecting the poisoning of wheat, there is no substance so efficacious as arsenic. Nux vomica can be taken almost with impunity by the graminivora, unless the dose is enormous; whereas the arsenic, at the sametime that it is almost valueless as to price, is more rapid in its poisonous effects than most known substances upon this class of animals. Nux is poisonous to animals having a tenacious vitality—*i. e.* the carnivora—and kills by over-exciting the vital functions; whereas arsenic accomplishes the same end by a directly contrary method, viz., that of depressing them. These facts are not generally known, and I mention them to save chemists wasting drugs in a useless manner, when the appropriate agent is so much more manageable and inexpensive." Mr. James Garbutt, of Gomersal, suggests a solution of pure strychnia.

Paris Situations.—"A Pharmaceutist" will best promote his views by advertising in our own or the Pharmaceutical Journal.

Dry Rot in Wood, &c.—"*£. s. d.*" Mineral naptha and kreosote will arrest the dry rot in wood. To one pint of naptha add one drachm of kreosote, lay on with a paint brush, and, if possible, allow some to soak into the ends of the pieces of wood which you wish to preserve. Camphor will destroy worm in books.

Glycerine Jelly.—H. Jackson (and other correspondents) are informed that, unless in very urgent cases, we do not reply to enquiries privately. *Beasly* directs for the above—Glycerine thickened with gum Tragacanth powder, and scented with otto of rose.

"*£. s. d.*" wishes to know what is the best temporary stopping for decayed teeth, and what most easily destroys the nerve.

The Shampooing Brush noticed in our last is patented by German & Brown, not Barge.

London, Sept. 13, 1861.

THE money market has continued in a very easy state, business being entirely confined to the actual wants of the trade; little cash has been wanted in the absence of speculative purchases. The Directors of the Bank of England reduced the rate from 5 to 4½ per cent. on the 15th, and again to 4 per cent. on the 30th inst. The fine weather for the harvest, which may now be considered safe and well housed, together with the specie remittances from abroad, as well as small parcels from America, tend to give confidence to the future; and should the present unsatisfactory state of affairs in America be shortly settled we may look forward to a very extensive business being done, and a general advance in prices. The ruling prices for discount in Lombard-street on first-class paper and securities are 3 to 4 per cent. Consols have gradually advanced, and are now 93⅛ ⅝ for money, and 93⅜ ⅛ for the 11th October account.

There has been only a moderate business transacted in Chemicals during the past month, and prices are generally in favour of the buyer. Several parcels of tartaric acid have been sold at 1*s.* 8¾*d.* per cwt. Large sales have been made in yellow prussiate, at 1*s.* 0½*d.* to 1*s.* 1*d.*, and now no sellers under 1*s.* 1*d.* to 1*s.* 1¼*d.* Some sales of citric acid have been made at 1*s.* 8½*d.* per cwt. A few parcels of oxalic sold at 8¼*d.* to 9*d.*, according to quality. Small lots of sal acetos sold at 10¼*d.* to 11*d.*, according to quality. More doing in chlorate of potass, at 10*d.* Bichromate remains dull at 9*d.* Iodine is dull at 4¼*d* to 5*d.* Soda ash is steady at 2⅛*d.* to 2⅝*d.* Soda crystals have advanced to 4*l.* 15*s.* ex ship, with large sales. Several purchases made in flour of brimstone at 14*s.* Sulphate of copper steady. Sulphate of ammonia 13*s.* 6*d* to 14*s.* More doing in sal ammoniac at 31*s.* 6*d.* to 32. Linseed oil has advanced to 34*s.* to 34*s.* 3*d.*, but is now rather quiet. Turpentine advanced to 70*s.* per cwt.; A few sales to-day were made at 65*s.* to 66*s.* for American. Canada pot and pearl ashes are both quiet at our quotations.

In the Drug market business is gradually improving, but generally prices are without much change. Castor oil has sold irregularly, but mostly at former prices. New Turkey opium is selling slowly at 16*s.* to 17*s.* 6*d.* Some Turkey blue galls sold at 88*s.* and 90*s.* A few lots good cubebs realized 7*l.* 10*s.* Both Barbadoes and Cape aloes have sold steadily at firm prices.

PRICE CURRENT.

☞ *These quotations are the latest for* ACTUAL SALES *in Mincing Lane. It will be necessary for our retail subscribers to bear in mind that they cannot, as a rule, purchase at the prices quoted, inasmuch as these are the* CASH PRICES IN BULK. *They will, however, be able to form a tolerably correct idea of what they ought to pay.*

	1861.			1860.		
	s.	d.	s. d.	s.	d.	s. d.
ARGOL, Cape..per cwt.	90	0..	97 6	90	0..103	0
French	60	0..85	0	60	0..85	0
Oporto, white	0	0..	0 0	0	0..	0 0
red	45	0..	0 0	50	0..52	0
Sicily	65	0..80	0	75	0..80	0
Naples, white	65	0..80	0	85	0.. 90	0
red	0	0..	0 0	0	0..	0 0
Florence, white	90	0..100	0	95	0..105	0
red	85	0..87	6	85	0..95	0
Bologna, white 115		0..120	0	125	0..130	0
ARROWROOT, duty 4½*d.* per cwt.						
Bermuda ....per lb.	1	1..	1 3	1	3..	1 6½
St. Vincent	0	2½..	0 6	0	2½..	0 6½
Jamaica	0	2½..	0 4½	0	2 ..	0 4½
Other West India ..	0	2 ..	0 3½	0	2 ..	0 3½
Brazil	0	1½..	0 2½	0	1½..	0 2½
East India	0	1⅜..	0 2	0	1⅜..	0 2½
Natal	0	2½ ..	0 6	0	3 ..	0 6½
Sierra Leone	0	2½..	0 3	0	2½..	0 3½
ASHES, ...per cwt.						
Pot, Canada, 1st sort	31	0..	0 0	32	0..33	0
U. S., 1st sort	0	0..	0 0	0	0..	0 0
Pearl, Canada, 1st sort	36	0..	0 0	32	0..32	6
U. S., 1st sort	0	0..	0 0	0	0..	0 0
BRIMSTONE, rough .....per ton	£7	10..	0 0	£10	0..10	5
roll	13	10..14	0	14	10..15	0
flour	14	0..14	10	16	10..17	0
CAPERS, French.....per cwt	£3	0..£5	0	£3	0..£5	0

	1861.			1860.		
CHEMICALS	s.	d.	s. d.	s.	d.	s. d.
Acid—Acetic, per lb.	0	4 ..	0 4½	0	4..	0 4½
Citric	1	8½..	1 9	1	10 ..	0 0
Nitric	0	3½..	0 4	0	5..	0 5½
Oxalic	0	8½..	0 9	0	8 ..	0 0
Sulphuric	0	0¾..	0 0	0	0¾..	0 1
Tartaric, crystal	1	8½..	1 9	1	10¼..	1 11
powdered .	1	10..	0 0	1	11½..	0 0
Alum .....per ton	£6	10	£0 0	£7	0	£7 5
powder	7	10..	0 0	8	10..	0 0
Ammonia, Carbon, lb.	0s.	5½d.	0 6d	0s.	6¼d.	0 6¾
	£	s.	£ s.	£	s.	£ s.d
Sulphate ..per ton	13	10..14	0	13	10..14	10
Antimony, ore.....	16	0..17	0	16	0..17	0
crude, per cwt..	30s.	0d.	0s. 0d	35s.	0d.	37s. 0
regulus	50	0..51	0	52	0..	0 0
French star	51	0..	0 0	52	0..53	0
Arsenic, lump	17	0..18	6	18	0..	0 0
powder	9	0..10	6	11	0..12	0
Bleaching Powder ..	9	0..10	0	11	0..11	3
Borax, E. I. refined..	35	0..45	0	44	0..64	0
British	65	0..	0 0	65	0..	0 0
Brimstone, roll.....	13	10..14	0	14	10..	0 0
flour	14	0..14	6	16	10..17	0
Calomel .....per lb.	2	10..	0 0	2	10..	0 0
Camphor, refined ..	2	8..	3 2	2	3..	0 0
Copperas, green, pr tn.	65	0..	0 0	65	0..	0 0
Cyrsiv. Sublimate, lb.	1	11..	2 0	2	1..	0 0
Green, Emerald, pr lb.	0	9½..	0 11	0	9..	1 0
Brunswick, cwt..	14	0..	0 42	0	14	0 42 0
Iodine, dry ..per oz.	0	4½..	0 5	0	5¾..	0 6½
Ivory Blk., drop pr. ct.	8	0..	0 0	0	0..	0 0

PRICE CURRENT—*continued.*

CHEMICALS.	1861. s. d.	s. d.	1860. s. d.	s. d.
Magnesia, Carbon. ct.	42 6..45 0		42 6..45 0	
Calcined, lb.....	1 6..0 0		1 6..0 0	
Minium, red, per cwt.	21 0..0 0		23 0..24 6	
orange	35 0..0 0		36 0..0 0	
Potash, Bichrom., lb.	0 0½..0 0		0 0½..0 11	
Chlorate.....	0 10..0 0		0 10½..0 11	
Hydriodate ..oz.	0 5½..0 5½		0 6½..0 6½	
Prussiate ....lb.	1 0½ 1 1		1 2 3..0 0	
red..	2 2..0 0		2 3..0 0	
Precipitate, red per lb.	2 9..2 10		2 10..2 11	
white.....	2 10..0 0		2 10..0 0	
Prussian Blue	1 6..1 10		1 6..1 10	
Rose Pink ...per cwt.	29 0..30 0		29 0..30 0	
Sal-Acetos....per lb.	0 10..0 10½		0 10½..0 0	
Ammoniac, cwt.				
British ..	32 0..33 0		32 6..34 0	
Epsom	3 3..3 6		3 3..3 6	
Glauber	3 0..3 6		3 0..3 6	
Saltpetre, refined ...	37 0..38 0		42 0..43 6	
Soda, Ash, per degree	0 2¾..0 2¾		0 2¾..0 2¾	
Bicarbonate ...cwt.	13 0..13 6		15 0..0 0	
Crystals....per ton	£4 15/ £5 0/		£5 0/..£0 0	
Sugar Lead, white, ct.	37s. 0d.38s. 0d.		0s.0d.33s. 0d.	
brown.....	28 0..0 0		28 0..0 0	
Sulphate Quinine, oz.				
British in bottle ..	7 2..7 6		8 2..8 6	
Foreign	6 9..0 0		7 0..8 0	
Sulphate Zinc ...cwt.	14 0..15 0		14 0..15 0	
Verdigris .....lb.	1 3..1 5		1 3..1 5	
Vermillion, English..	3 0..3 4		3 0..3 4	
China.....	2 1..2 3		2 10..3 2	
Vitriol, blue or Roman per cwt...	31 6..32 0		34 6..35 0	
CHICORY....per cwt.				
Foreign (duty, 6s.) ..	17 0..17 6		13 0..13 6	
COCHINEAL....per lb.				
Honduras, black....	2 10..4 6		3 6..5 3	
silver	2 9..3 6		3 3..3 3	
pasty	1 6..2 2		2 10..3 0	
Mexican, black.....	2 8..3 2		3 2..4 0	
silver.....	2 4..2 6		3 0..3 3	
Lima	2 6..3 2		3 3..4 0	
Teneriffe, black	3 0..3 4		3 5..4 0	
silver	2 7..2 9		3 1..3 5	
COCOA (duty 1d. per lb.)				
Trinidad, red, in bond.....per cwt.	58 0..90 0		70 0..90 0	
gray	52 0..60 0		64 0..68 0	
Grenada.....	48 0..56 0		60 0..68 0	
Dominica & St. Lucia	48 0..50 0		58 0..62 0	
Para	54 0..58 0		64 0..68 0	
Bahia	50 0..51 0		54 0..57 0	
Guayaquil	54 0..55 0		68 0..70 0	
COFFEE, in bond (duty 3d. per lb.)				
Jamaica, good, mid. to f.....	73 0..95 0		73 0..94 0	
low mid. & mid.	70 0..72 0		68 0..70 0	
fine ordinary ...	66 0..68 0		62 0..64 0	
good ordinary ..	63 0..66 0		59 0..61 0	
ord. and triage..	50 0..60 0		46 0..59 0	
Ceylon, Nat. gd. & f.	64 0..65 0		59 0..63 0	
ordinary	57 0..64 0		55 0..58 0	
Plantation..	85 0..88 0		87 0..92 0	
fine mid.	77 0..81 0		79 0..80 0	
good mid.	72 0..76 0		75 0..78 0	
middling	70 0..72 0		70 0..74 0	
fi.ord. to low md.	65 0..70 0		64 0..69 0	
mixed and triage	50 0..63 0		48 0..65 0	
Malabar and Mysore	60 0..78 0		57 0..78 0	
Madras	60 0..76 0		58 0..70 0	
Tellicherry	65 0..90 0		62 0..89 0	
Mocha, fine	110 0 123 0		112 0 123 0	
garbled	93 0..94 0		94 0 110 0	
ungarbled	62 0..100 0		62 0..80 0	
Batavia, yellow	66 0..75 0		65 0..78 0	
pale and mixed..	60 0..65 0		56 0..64 0	
Sumatra.....	52 0..54 0		50 0..53 0	
Padang	54 0..60 0		54 0..53 0	
African	66 0..85 0		80 0..90 0	
Brazil, f. ord. & wshd.	56 0..72 0		60 0..72 0	
good ord.	53 0..55 0		57 0..61 0	
ordinary	45 0..52 0		51 0..57 0	

COFFEE.	1861. s. d.	s. d.	1860. s. d.	s. d.
La Guayra	70 0..76 0		62 0..78 0	
Costa Rica, mid. to f.	70 0..78 0		68 0..82 0	
good and f. ord.	66 0..69 0		62 0..68 0	
Cuba, mid. to fine ..	67 0..80 0		68 0..82 0	
f. ord. & f. f. ord.	63 0..66 0		62 0..68 0	
ord. & good ord.	57 0..62 0		55 0..62 0	
Porto Rico	60 0..78 0		62 0..78 0	
St. Domingo.....	57 0..61 0		56 0..65 0	
DRUGS,	£. s. £. s.		£. s. £. s.	
Aloes, Hepatic, pr. cwt.	3 10..9 0		3 10..9 10	
Socotrine	6 0..23 0		5 10..24 10	
Cape, good.....	2 0..2 4		1 15..1 18	
inferior ..	1 8..1 18		1 2..1 14	
Barbadoes.....	2 0..22 0		2 0..22 10	
Ambergris, gray, p.oz.	34s. 0d. 40s. 0d.		35s. 0d. 42s. 0d.	
Angelica Root. pr.cwt.	20 0..35 0		35 0..42 0	
Aniseed, China star..	65 0..75 0		81 0..85 0	
German, & c	26 0..44 6		32 0 42 6	
Balsam, Canada, pr.lb.	1 4..0 0		1 3..0 0	
Capivi	1 8..1 9½		1 11..2 1	
Peru.....	4 7..4 9		4 10..4 11	
Tolu	3 9..3 10		3 8..3 9	
Bark, Cascarilla, cwt.	24 0..40 0		25 0..44 0	
Peru. crwn. & gry. pr.lb.	1 2..2 6		1 10..3 4	
Calisaya, flat ..	3 6..3 9		5 0..5 6	
quill ..	3 4..3 6		5 0..5 3	
Carthagena	0 10..2 0		1 2..2 0	
Pitayo	1 0..2 2		0 10..2 3	
Red	2 0..4 6		2 0..4 6	
Bay Berries, per cwt.	22 0..40 0		22 0..40 0	
Borax.....	20 0..45 0		20 0..37 6	
Tincal	42 0..48 0		33 0..48 0	
Bucca Leaves	0 0..1 6		0 0..1 2	
Burgundy Pitch, p.cwt.	0 0..0 0		0 0..0 0	
Camomile Flowers..	30 0..60 0		140 0 190 0	
Camphor, China.....	230 0 235 0		160 0 165 0	
Canella Alba.....	20 0..40 0		25 0..45 0	
Cantharides ..per lb.	2 0..2 8		3 1..3 2	
Cardamms. Mlbr. good	4 8..5 0		4 7..4 11	
inferior ..	4 0..4 6		3 10..4 3	
Madras ..	2 10..4 2		2 10..4 3	
Ceylon ..	3 6..4 0		2 10..3 9	
Cassia Fistula, pr.cwt.	0 0..23 0		28 0..38 0	
Castor Oil, 1st pale, lb.	0 6¼ 0 6¾		0 6..0 6¾	
second	0 5¾ 0 6		0 5¾ 0 5¾	
infr. and dark	0 4¾ 0 5¼		0 5..0 5¼	
Bombay, in casks	0 4¾ 0 5		0 3¾ 0 4	
Castorum	0 0..28 0		5 0..20 0	
China Root..per cwt.	9 0..10 0		9 0..10 0	
Coculus Indicus	12 0..16 0		15 0..16 0	
Cod-liver Oil, per gal.	4 9..6 0		4 9..6 9	
Colocynth, apple, p.lb.	0 8..1 2		0 11..1 0	
Colombo Root, per cwt.	15 0..47 6		14 0..47 0	
Corosus Nuts, per cwt.	13 0..23 6		14 0..27 6	
Cream Tartar, per cwt.				
French	120 0..0 0		140 0..0 0	
Venetian	122 6..0 0		142 6..0 0	
gray	112 0 115 0		125 0 127 6	
brown.....	107 6 112 6		118 0 120 0	
Croton Seed.....	65 0..95 0		70 0..80 0	
Cubebs	150 0..0 0		220 0 230 0	
Cummin Seed	36 0..40 0		26 0..32 0	
Dividivi	13 0..14 0		11 6..12 6	
Dragon's blood, reed.	£8 0 £12 0		£7 0..£10 0	
lump	4 0..10 0		5 0..13 0	
Galangal Root.....	0 18..22 0		1 6..1 8	
Gentian Root	0 15..0 17		0 16..0 17	
Ginger, prsecrved, in bd.	s. d. s. d.		s. d. s. d.	
(duty 2d. lb.) per lb.	0 4..0 6		0 9..0 9½	
Guinea Grains. per cwt.	46 0..50 0		67 0..69 0	
Honey, Narbonne ..	60 0..85 0		70 0..90 0	
Cuba	25 0..40 0		28 0..38 0	
Jamaica.....	26 0..56 0		28 0..55 0	
Ipecacuanha, per lb..	4 4..4 6		3 9..3 11	
Isinglass—				
Brazil.....	1 0..4 2		1 10..4 2	
East India	0 8..3 0		1 10..4 3	
West India	3 2..3 8		3 0..4 2	
Russian, long staple	12 0..13 0		0 0..0 0	
leaf.....	9 6..12 0		0 0..0 0	
Simovia..	2 0..2 6		1 6..2 6	
Jalap	2 6..4 6		4 0..4 1	

PRICE CURRENT—*continued.*

DRUGS.	1861. s. d.	s. d.	1860. s. d.	s. d.
Juniper Berries, p. cwt.				
German and French	10 0	10 6	9 0	9 6
Italian	10 0	12 0	9 0	10 0
Lemon Juice, per deg.	0 0½	0 1	0 0½	0 0
Lichen Islandicus, lb.	0 0	0 0	0 0	0 0
Liquorice... per cwt.				
Spanish	83 0	90 0	83 0	93 0
Italian	85 0	95 0	90 0	98 0
Macaroni, Genoa, p.lb.	0 3	0 6	0 3	0 6
Naples	0 4	0 5½	0 4	0 5½
Manna, flaky	3 0	3 9	4 9	5 3
small	1 6	2 0	2 6	2 7
Musk ...per oz.	20 0	32 0	24 0	30 0
Myrabolans, per cwt.	8 6	12 0	9 6	13 6
Nux Vomica	8 0	9 0	13 0	14 6
Opium, Turkey	14 0	18 0	16 6	19 0
Egyptain	6 0	13 0	6 0	13 6
Orris Root.. per cwt.	27 0	30 0	28 0	31 0
Pellitory Root	0 0	0 0	0 0	0 0
Pink Root...per lb.	1 9	1 11	1 0	1 3
Quassia (bit.wd.) ton	£3 10	4 0	£5 0	£0 0
Rhatania Root . p lb.	1s. 0d.	0s. 0d	0s. 7d.	1s. 2d
Rhubarb, China, rnd.	0 10	2 6	1 0	2 6
flat	1 0	2 9	1 2	2 9
Dutch, trimd.	3 0	3 6	3 3	3 6
Russian	11 6	0 0	13 6	14 6
Saffron, Spanish	53 0	54 0	52 0	54 0
Salep	per cwt. £11 0	s.£12 10	£9 0	£12 0
Sarsaparilla, Lima	0s. 11d.	1s. 2d	0s. 10d.	1s. 2d
Para	0 10	1 2	0 10	1 2
Honduras	0 11	1 6	0 11	1 6
Jamsica	1 3	2 3	1 3	2 6
Sassafras	per cwt. 10 0	12 0	10 0	12 0
Scammony .. per lb.				
virgin	28 0	35 0	28 0	30 0
second	14 0	24 0	14 0	24 0
Seedlac	60 0	90 0	42 0	60 0
Seneka Root	2 8	0 0	2 0	2 2
Senna, Calcutta	0 1½	0 2½	0 2	0 2¼
Bombay	0 1½	0 3	0 2	0 4
Tinnevelly	0 2	0 11½	0 4	0 7
Alexandria	0 4	0 6½	0 4	0 6
Shellac, orange, pr.ct.	200 0	220 6	205	0.212 6
liver & garnet.	165 0	190 0	200	0.210 0
block	140 0	160 0	185	0.200 0
bttn.dk.to mid.	130 0	155 0	175	0.190 0
good and fine.	160 0	200 0	195	0.210 0
Snake Root	0 1	0 3	2	0 3
Spermaceti, refined	1 1	1 2½	1 8	0 0
Squills	0 1	0 2½	0 2	0 4
Sticklac	70 0	95 0	60 0	90 0
Tamarinds, E. India.	10 0	12 0	7 6	10 0
W.I. per cwt.	16 0	32 0	16 0	36 0
Terra Japonica,				
Gambier .. per cwt.	17 0	18 0	17 3	18 0
Cutch	21 6	23 0	26 6	27 0
Valerian Root, Engl.	20 0	40 0	20 0	40 0
Vanilla,				
Mexican .. per lb.	20 0	45 0	35 0	75 0
Brazil	0 0	0 0	0 0	0 0
Wormseed .. per cwt.	2 0	0 0	0 0	0 0
FARINA, Scotch	20 0	25 0	16 0	16 6
GUM ..... per cwt.	£. s.	£. s.	£. s.	£. s.
Ammoniac, drop	2 15	5 0	2 15	5 0
lump	0 12	1 15	0 15	2 0
Animi, fine pale	15 0	16 0	14 10	16 0
bold amber	13 0	14 0	13 0	16 5
medium	8 10	11 0	8 10	11 10
small & dark.	5 0	8 5	5 0	8 0
ordinary dark	2 10	5 0	2 10	5 0
Arabic, E.I.f.palepicked	2 10	2 17	2 18	3 3
unsorted, good to f.	1 18	2 10	1 18	2 10
red and mixed	1 4	1 10	1 8	1 16
siftings	0 0	0 0	0 18	1 3
Turkey, pkd. gd. to fi.	5 10	7 5	5 10	7 10
second & infr.	2 0	5 5	2 5	5 5
in sorts	1 10	2 3	1 16	2 3
Gedda	1 5	1 7	1 6	1 8
Barbary, white	1 11	1 12	1 13	1 16
brown	1 6	1 7	1 8	1 11
Cape	0 16	0 18	0 15	0 18
Assafœtida, fair to gd.	1 0	5 0	1 0	4 10
Benjamin, first qual.	18 10	36 0	18 0	35 0

GUM.	1861. £. s.	£. s.	1860. £. s.	£. s.
Benjamin, 2nd qual.	8 5	20 10	8 0	16 10
3rd ,,	2 10	7 10	3 0	7 10
Copal, Angola red	5 0	6 0	4 10	4 15
pale	4 5	5 5	3 6	4 10
Benguela	4 0	5 10	3 10	4 5
Sierra Leone lb.	0s. 6d.	1s. 6d	0s. 9d.	1s. 9d
Manilla, pr.ct.	12 0	40 0	15 0	43 0
Dammar, pale, pr. ct.	44 0	48 0	44 0	48 0
	£. s.	£. s.	£. s.	£. s.
Galbanum	7 0	9 0	7 0	9 0
Gamboge, pkd. pipe	6 0	8 0	6 10	8 10
in sorts	4 0	5 10	4 10	6 0
	s. d.	s. d.	s. d.	s. d.
Guaiacum ....per lb.	0	8.. 1 6	0 10	1 9
Kino ..... per cwt.	100 0	140 0	95 0	120 0
Kowrie	16 0	20 0	13 0	15 6
Mastic, pkd., per lb.	7 0	8 6	8 6	9 6
Myrrh, gd. & fi., pr. ct.	140 0	180 0	160 0	220 0
sorts	80 0	130 0	90 0	150 0
Olibanum, pale drop,	60 0	68 0	60 0	68 0
amber & yellow	40 0	54 0	40 0	54 0
mixed & dark	10 0	26 0	12 0	26 0
Senegal	36 0	45 0	28 0	33 0
Sandrac	90 0	100 0	90 0	117 6
Tragacanth, leaf	180 0	340 0	190 0	340 0
in sorts.	120 0	136 0	100 0	126 0
LAC DYE, per lb. D. T.	1 9	1 10	1 1½	2 1
B Mirzapore	1 6	1 7	1 7	1 9
Other good and fine	1 0	2 5	1 1	2 3
Ord. & Native marks	0 2	0 11	0 2	0 11
OILS ..... per tun	£. s.	£. s.	£. s.	£. s.
Seal, pale	40 0	0 0	34 0	0 0
yellow	32 0	34 0	31 10	32 0
brown	31 0	0 0	30 0	0 0
Sperm, body	93 0	94 0	108 0	0 0
headmatter	91 0	92 0	109 0	110 0
Cod	34 0	35 0	36 0	0 0
Whale, Greenland	0 0	0 0	37 0	37 5
South Sea, pale	35 10	0 0	34 10	0 0
yellow	32 10	0 0	32 0	0 0
brown	31 0	0 0	30 0	0 0
E. I. Fish	29 10	30 0	28 10	0 0
Olive, Galipoli ..tun	58 0	59 0	60 0	0 0
Trieste	56 0	0 0	58 0	0 0
Levant	53 0	54 0	55 0	0 0
Mogadore	52 10	53 0	55 0	0 0
Spanish	56 0	0 0	60 0	0 0
Sicily	56 0	0 0	56 0	57 0
Florence, pr. ½-chst.	19 0	0 0	0 16	0 0
Cocoanut, Cochin, tun	46 0	47 6	48 0	49 0
Ceylon	45 6	46 0	46 10	47 0
Sydney	38 0	45 0	40 0	46 0
Ground Nut and Gin.				
Bombay	39 15	41 0	41 0	0 0
Madras	41 0	43 0	42 0	45 0
Palm, fine	42 0	43 6	45 0	0 0
Palm Nut	36 0	0 0	38 6	0 0
Linseed	34 0	0 0	29 10	34 0
Rapeseed, Engl. pale	44 0	0 0	45 10	0 0
brown	42 0	0 0	43 0	44 0
Foreign do.	44 0	45 0	46 10	47 0
brown	42 0	42 10	44 0	0 0
Lard	54 0	0 0	63 0	64 0
Tallow	40 0	0 0	30 0	0 0
Rosin	0 0	0 0	7 5	0 0
OILS, Essential	s. d.	s. d.	s. d.	s. d.
Almond, essen. pr. lb.	30 0	.31 0	30 0	.31 0
expressed	1 0	0 0	1 0	0 0
Aniseed	7 3	0 0	7 6	0 0
Bay ..... per cwt.	122 6	0 0	122 6	0 0
Bergamott ....per lb.	6 6	14 0	6 6	11 0
Cajeputa, bond, pr. oz.	0 1½	0 1¾	0 1	0 1½
Caraway .... per lb.	4 3	6 0	5 6	0 0
Cassia	10 0	10 6	10 3	0 0
Cinnamon (inb.) p. oz.	1 6	3 0	3 0	4 3
Cinnamon Leaf	0 2	0 4	0 2	0 2½
Citronel	0 4	0 0	0 3½	0 3½
Clove	0 4	0 0	0 2½	0 3½
Croton	0 3	0 4	0 4½	0 4½
Juniper ..... per lb.	1 10	4 0	1 10	4 0
Lavender	2 6	5 0	2 6	5 0
Lemon	5 0	10 6	5 0	10 0
Lemongrass.. per oz.	0 4½	0 6½	0 5	0 6½

PRICE CURRENT—*continued.*

OILS, Essential,	1861. s.	d.	s.	d.	1860. s.	d.	s.	d.
Mace, ex	0	2	..	0	0	1¾	..	0
Neroli	6	0	..	9	0	6	..	10
Nutmeg	0	1¾	..	0	2	0	2½	..	0	3
Orange ...per lb.	7	0	..	8	0	10	2	..	11	0
Otto Roses ..per oz.	16	0	..	25	0	16	0	..	26	0
Peppermint ..per lb.										
American	7	6	..	12	6	8	0	..	13	0
English	32	0	..	38	0	24	0	..	30	0
Rhodium ..per oz.	3	0	..	3	6	3	0	..	6	0
Rosemary ....per lb.	1	10	..	3	0	1	10	..	3	0
Sassafras	3	0	..	3	6	3	6	..	3	9
Spearmint	5	0	..	12	6	5	0	..	12	6
Spike	1	3	..	1	6	1	3	..	1	6
Thyme	1	9	..	2	6	2	0	..	3	0
PITCH, British, pr. cwt.	6	0	..	6	6	10	0	..	0	0
Swedish	10	3	..	0	0	10	0	..	15	0
SALTPETRE, per cwt.										
Bengal, 6 p.c. or under	34	6	..	35	6	43	6	..	44	0
over 6 per cent.	33	0	..	34	0	38	0	..	43	0
Madras	32	0	..	34	0	37	0	..	41	0
Bombay	30	0	..	31	6	35	0	..	38	0
British-refined	37	0	..	38	0	42	0	..	43	0
Nitrate of Soda	13	0	..	13	6	13	0	..	13	6
SEED, Canary ...p. qr.	30	0	..	46	0	52	0	..	62	0
Caraway, English, p.c.	23	0	..	25	0	32	0	..	36	0
German, &c.	0	0	..	0	0	30	0	..	38	0
Clover, English, red	0	0	..	0	0	0	0	..	0	0
white	0	0	..	0	0	0	0	..	0	0
Germ. & French, red	0	0	..	0	0	0	0	..	0	0
white	0	0	..	0	0	0	0	..	0	0
Coriander	0	0	..	0	0	0	0	..	0	0
East India	0	0	..	0	0	11	6	..	12	6
Hemp	48	0	..	52	0	42	0	..	44	0
Linseed, English, p. qr.	52	0	..	56	0	70	0	..	74	0
Black Sea and Azof	56	0	..	0	0	53	0	..	54	0
Calcutta	56	0	..	58	0	55	0	..	0	0
Bombay	60	0	..	60	6	56	6	..	57	0
Egyptian	53	0	..	54	0	50	0	..	52	0
St. Petrsbg., Morshnk	52	0	..	53	0	53	0	..	54	0
Archangel	52	0	..	56	0	46	0	..	47	0
Riga	47	0	..	51	0	42	0	..	44	0
Mustard, brown, p. bhl	9	0	..	12	0	0	0	..	0	0
white	9	0	..	10	0	0	0	..	0	0
Niger	50	0	..	0	0	46	0	..	47	0
Poppy, East ...per qr.	58	6	..	59	0	56	0	..	0	0
Rape, English	0	0	..	0	0	0	0	..	0	0
Danube	61	0	..	0	0	63	0	..	65	0
Calcutta, fine	57	0	..	58	0	60	0	..	0	0
Bombay, General	55	0	..	60	0	70	0	..	72	0
Feroze, & Scinde	56	0	..	60	0	55	0	..	61	0
Teel, Sesame or Gingly	63	0	..	67	0	62	0	..	68	0
Cotton ....per ton	7	10	..	0	0	7	0	..	7	10
Ghd. Nut Kernels, tn.	315	0	..	330	0	310	0	..	320	0
SOAP, Lond. yel. p. cwt.	21	0	..	38	0	21	0	..	38	0
mottled	34	0	..	38	0	36	0	..	38	6
curd	52	0	..	0	0	52	0	..	0	0
Castile	37	0	..	40	0	37	0	..	40	0
Marseilles	40	0	..	41	0	40	0	..	41	0
SOY, China ..(per gal.)	2	0	..	2	3	4	0	..	4	1
Japan	0	8	..	0	10	0	0	..	0	0
SPICES, duty free, except pepper,										
Cassia Lignea, p. cwt.	78	0	..	88	0	80	0	..	90	0
Vera	12	0	..	50	0	12	0	..	50	0
Buds	205	0	..	210	0	200	0	..	210	0
Cinnamon, per lb.										
Ceylon, 1st quality.	1	5	..	2	7	1	6	..	2	1
2nd ditto ..	1	2	..	1	10	1	1	..	1	7
3rd ditto ..	0	9	..	1	4	0	10	..	1	2
Tellicherry	0	10	..	1	0	0	9	..	1	0
Cloves, Penang	1	1¾	..	1	3	1	0	..	1	4
Amboyna	0	4¾	..	0	5½	0	4¾	..	0	5½
Zanzibar	0	3¾	..	0	4¾	0	3¾	..	0	3¾
Ginger	£	s.	£	s.	£	s.	£	s.	£	s.
Jamaica, fine pr. cwt.	7	0	..	9	10	7	0	..	10	0
ord. to good	2	0	..	6	0	3	10	..	6	10
African	38s.	0d.	..	40s.	0d.	35s.	0d.	..	37s.	0d.
Bengal	30	0	..	32	0	23	6	..	24	6
Malabar	34	0	..	38	0	33	0	..	34	0
Cochin	40	0	..	105	0	50	0	..	130	0
Mace, 1st qlty. lb.	1	3	..	1	4	1	3	..	2	4
2nd. & infr.	0	9	..	1	0	1	1	..	1	6
Nutmegs per lb.										
brown Penang, &c.	0	11	..	4	0	1	4	..	3	8
limed	0	10	..	2	6	1	4	..	2	4

SPICES,	1861. s.	d.	s.	d.	1860. s.	d.	s.	d.
Pepper (duty 6d. pr. lb.)								
Black, in bond								
Malabar	0	4½	..	0	5½	0	4½	0	5½
Alleppee	0	4¾	..	0	4½	0	4¾	0	4½
Penang & Batavia	0	3¾	..	0	3¾	0	3¾	..	0	4½
Singapore	0	3¾	..	0	4	0	4	..	0	4½
White, Tellicherry	0	10¾	..	1	5	0	9¾	..	1	0¾
Other sorts	0	5¾	..	0	6½	0	6	..	0	6¾
Cayenne	1	..	..	1	6	0	10	..	1	4
Pod, S. Leone pr. c.	27	0	..	32	0	28	0	..	33	0
Zanzibar	70	0	..	94	0	57	0	..	61	0
Long	32	0	..	34	0	32	0	..	38	0
Pimento, mid. to good	0	2¾	..	0	3	0	3¼	..	0	3¾
ordinary	0	2¼	..	0	2¾	0	3¼	..	0	0
SPONGE, Turk. f. pkd.	20	0	..	26	0	20	0	..	36	0
fair to good	9	0	..	18	0	9	0	..	18	0
ordinary	3	0	..	8	0	3	0	..	8	0
Bahsma	0	4	..	1	3	0	3	..	1	0
TEA (duty 1s. 5d. per lb.) in bond.										
Congou, ordinary	0	7	..	0	8	1	0¼	..	1	2
good ordinary	0	9	..	0	10	1	2½	..	1	3
but middling.	0	10	..	1	0	1	3	..	1	4
blackish leaf	1	2	..	1	4	1	4	..	1	5
ditto strong	1	6	..	1	9	1	7	..	1	10
ditto to extra fine	1	9	..	2	5	2	0	..	2	1
Ning Yong and Oolong	0	10	..	2	0	1	4	..	2	2
Souchong, ordinary	0	10	..	1	0	1	3	..	1	5
fair to fine	1	2	..	1	8	1	5	..	2	0
finest	2	0	..	4	0	2	0	..	2	6
Flowry Pekoe, ordinary	1	3	..	1	6	1	6	..	2	0
fair to good	1	6½	..	2	0	1	6	..	2	6
fine to finest	2	6	..	4	0	3	0	..	4	6
Caper, scented, in bxs.	0	9	..	2	1	0	11½	..	1	4
Orange Pekoe, plain	0	9	..	0	10	1	0	..	1	4
scented	0	11	..	2	3	1	2	..	2	3
Twankay, ordy. Canton	0	0	..	0	0	0	8	..	0	0
common to good	0	11	..	1	4	0	10	..	1	2
fine to Hyson kind.	1	5	..	1	6	1	3	..	1	4
Hyson Skin, common	0	10	..	1	0	0	8	..	0	11
good to fine	1	1¼	..	1	4	1	0	..	1	1
Hyson, ordy. to comn.	1	8	..	1	10	1	4	..	1	8
fair to fine	2	0	..	2	6	1	9	..	2	6
finest	2	9	..	4	6	2	9	..	4	6
Young Hys. Boh. kind	0	0	..	1	0	0	9	..	0	10
good to fine	1	5	..	2	0	0	11	..	2	4
Imperial	1	6	..	2	2	1	0	..	2	2
Gunpowder	0	9½	..	3	9	0	11	..	3	9
Assam	1	2	..	4	6	1	7	..	4	6
TURPENTINE,										
Rough ...per cwt.	16	0	..	18	0	8	6	..	8	9
Spirits, English	66	0	..	0	0	30	0	..	0	0
American, in casks	67	0	..	70	0	31	0	..	0	0
WAX, Bees, English	£8	5	..	£8	10	£8	5	..	£8	10
German	8	0	..	8	15	8	0	..	8	5
American	9	0	..	10	0	8	10	..	10	0
white fine	10	0	..	10	10	10	0	..	10	15
Jamaica	8	10	..	9	10	8	15	..	9	10
Gambia	9	0	..	0	0	9	0	..	9	10
Mogadore	6	10	..	8	0	6	0	..	7	10
East India	7	0	..	8	10	6	0	..	8	0
ditto, bleached	9	0	..	11	0	9	0	..	11	0
Vegetable, Japan	2	14	..	3	5	3	0	..	3	3
WOOD, DYE, bar, pr. tn.	3	5	..	0	0	0	0	..	0	0
Brazil, first quality	70	0	..	73	0	90	0	..	93	0
second quality	55	0	..	60	0	80	0	..	83	0
logs	15	0	..	18	0	20	0	..	25	0
Brazilletto	4	0	..	5	10	4	0	..	5	10
Camwood	16	0	..	20	0	24	0	..	26	0
Ebony, Green	7	0	..	8	10	9	10	..	10	0
Fustic, Cuba	9	10	..	9	0	8	15	..	9	5
Jamaica	5	10	..	5	15	5	5	..	5	15
Savanilla	5	0	..	5	5	5	0	..	5	10
Zante	7	0	..	9	0	9	0	..	0	0
Logwood, Campeachy	9	0	..	9	10	6	10	..	6	15
Honduras	6	0	..	0	0	5	5	..	0	0
St. Domingo	5	15	..	0	0	5	0	..	5	10
Jamaica	5	0	..	5	5	4	10	..	4	15
Nicaragua, lar. & sol.	8	10	..	0	0	11	0	..	12	10
small	7	10	..	0	0	0	0	..	0	0
Lima, first pile	8	0	..	9	0	13	10	..	14	5
second pile	7	0	..	7	15	12	10	..	13	0
Red Sanders	6	0	..	6	2 6d	5	5	..	5	10
Sapan, Bimas	6	10	..	8	0	6	0	..	8	10
Siam, &c.	7	0	..	9	0	6	0	..	9	10

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LETTERS PATENT.

DRUGS, CHEMICALS, ETC.

3038 Townsend, J., and Walker, J., Glasgow, improvements in treating lye products, arising in the manufacture of soda and potash, for the obtainment of antichlores and other useful products.

3161 Puls, F., Hackney Wick, improvements in obtaining products from coal, gas tar, gas pitch, coal tar, asphalte, resin, and other bituminous and resinous substances.

INDIA RUBBER.

3121 Brooman, R. A., Fleet-street, improvements in the treatment of caoutchouc, and the employment of a product obtained thereby for lubricating and coating bodies.

MISCELLANEOUS.

3003 Wheble, J. J., Reading, improvements in the manufacture of artificial stone, for building purposes.

3014 Johnson, J. H., Lincoln's-inn-fields, improvements in apparatus for applying capsules to bottles.

3092 Szerelmey, N. C., Brixton-road, an improved method of, and apparatus for purifying oils and varnishes.

3101 Walker, T. W., Poole, improvements in the manufacture of ornamental bricks, tiles, and other articles of a similar nature, and in the machinery or apparatus employed therein.

3104 Stevens, C., Welbeck-street, a new mode of obtaining an article resembling honey, and to be used as a substitute therefor.

3157 Fanshawe. J. A., and Jaques, J. A., Tottenham, improvements in the manufacture of fabrics with rubbing or friction surfaces.

3190 Vilcoq, L. C. M. J., France, improvements in apparatus or machinery for triturating textile bodies and other substances.

3193 De Buffon, B. N., Paris, improvements in apparatus for clarifying and purifying water and other liquids.

46 Rattray, W., Aberdeen, improvements in preserving organic substances.

112 Stevens, C., Charing Cross, a new paste made from wood, to be used in the manufacture of various articles, together with the apparatus employed in the preparation of the same.

217 Clark, J., Kennington, the application of a paste of whatever wood to any kind of ornamental and other mouldings, without the least admixture of any other materials, or use of any chemical agent.

513 Hay, W. J., Southsea, an improved glue or composition, suitable for covering the caulking of ships, and other like purposes; for uniting wood and other substances; for filling up seams, and for use as a waterproof glue or composition generally.

PROVISIONAL PATENTS.

DRUGS, CHEMICALS, ETC.

1367 Laming, R., Kilburn, improvements in manufacturing alkaline carbonates.

1411 Stanford, E. C., Worthing, improvements in obtaining products from sea weeds.

1448 Croll, A. A., London, improvements in the manufacture of sulphate of ammonia.

INDIA RUBBER AND GUTTA PERCHA.

1114 Godfroy, P. A., Islington, an improvement in the manufacture of gutta percha.

1192 Godefroy, P. A., Islington, an improvement in the treatment of india rubber.

MISCELLANEOUS.

554 Petitjean, T., Brydges-street, Covent Garden, improvements in the manufacture of glass.

940 Authonissen, H., Brussels, an improved mode of making bread, and obtaining starch from the materials employed simultaneously.

1012 Henry, M., Fleet-street, improvements in apparatus for ærating liquids.

1316 Danchell, F. H., Red Lion-square, certain improved methods of, and apparatus for ascertaining and removing impurities contained in water.

1407 Standfast, S., Hackney, an improved composition for building, to be used in substitution for brick and stone, and an improved method of constructing walls and roofs for houses and other purposes.

1410 Buff, H. L., Hanover, improvements in the treatment of fatty and oily matters.

1426 Baker, G., Birmingham, a new or improved instrument or apparatus for churning and for beating eggs, and for other like purposes.

1460 Mason, J., Nottingham, a woollen article as a substitute for sponge.

1468 Clark, W., Chancery-lane, improvements in the manufacture of a material or composition for cleaning and polishing metals and glass.

1473 Brown, A., Liverpool, improvements in obtaining fresh water at sea, by means of distilling apparatus combined with the cooking stoves, or otherwise.

1489 Stevens, C., Charing Cross, an improved permeable varnish for leather.